



THE UNIVERSITY *of* EDINBURGH

This thesis has been submitted in fulfilment of the requirements for a postgraduate degree (e.g. PhD, MPhil, DClinPsychol) at the University of Edinburgh. Please note the following terms and conditions of use:

This work is protected by copyright and other intellectual property rights, which are retained by the thesis author, unless otherwise stated.

A copy can be downloaded for personal non-commercial research or study, without prior permission or charge.

This thesis cannot be reproduced or quoted extensively from without first obtaining permission in writing from the author.

The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the author.

When referring to this work, full bibliographic details including the author, title, awarding institution and date of the thesis must be given.

**Approaches to critical thinking in religious education in Scotland:
analysis of teachers' accounts and curriculum documents in
non-denominational and Roman Catholic sectors**

Raheleh Mir Eslami

**Thesis presented for the degree of Doctor of Philosophy
The University of Edinburgh
2016**

Abstract

This comparative qualitative research aimed to explore critical thinking in teachers' accounts and curriculum documents of religious education in two different sectors in Scottish Education: non-denominational and Roman Catholic. While previous research examined critical thinking in different curriculum areas and there are empirical studies on religious education from different perspectives, there was a lack of research on critical thinking in religious education particularly in the Scottish context. What makes exploring critical thinking in religious education particularly interesting is the complex relationship between faith and reason, and the importance attached to personal beliefs within the subject, unlike in other curriculum areas.

My research consists of three different studies to answer the research questions. In the first study, I designed a framework of critical thinking drawing on analysis and synthesis of critical thinking definitions and frameworks dominant in the literature. Having investigated the most-cited taxonomies and frameworks of thinking skills and critical thinking such as those presented by Bloom, Ennis, Halpern and Paul, I designed a hierarchical framework of critical thinking. This conceptual framework covers lower level thinking skills, higher level (cognitive and meta-cognitive) thinking skills and dispositions. In the second study I used this framework to analyse and compare the explicit and implicit incorporation of critical thinking and its elements in RE curriculum documents in the two education sectors. The purpose was to identify different types of critical thinking in these documents. The third study focused on teachers' understanding of critical thinking in religious education by conducting semi-structured interviews with RE teachers in secondary schools in Scotland: 5 in 5 non-denominational schools and 4 in 3 Roman Catholic schools. Analysis of curriculum documents and teachers' interviews based on the framework of critical thinking revealed the workability and originality of this designed framework. One of the key findings of this study is that although the elements of critical thinking evident in RE curriculum documents of both sectors and the terminology used in them is the same, different approaches to religion and truth results in different approaches to critical thinking being implicit in those documents: critical thinking *within* religion, critical thinking *between* religions and critical thinking *concerning* religion. Moreover the study shows the vagueness of all RE curriculum documents in defining the term critical thinking and its development, and the lack of comprehensive knowledge amongst teachers of critical thinking integrated in these documents. Another finding of this research is that although there is some similarity in RE teachers' explicit approaches to critical thinking, teachers have individual perceptions of critical thinking which does not seem to be influenced by the sector in which they worked. I suggest that this is due to their different personal and social backgrounds shaping their understanding, combined with the absence of clear definition of critical thinking in RE curriculum documents. Regarding the intertwined relation between critical thinking and religious education, the study suggests that it would be beneficial to include a clear definition of critical thinking and the methods by which it can be developed in curriculum documents.

Acknowledgements

Foremost, I would like to express my sincere gratitude to my supervisors Prof Stephen McKinney and Dr Gale MacLeod for the continuous support of my PhD study and research, for their patience, motivation, enthusiasm, and immense knowledge. Their guidance helped me in all the time of research and writing of this thesis. I could not have managed to finish my PhD without their warm support and encouragement in my hard times.

Last but not the least, I would like to thank my family: Ali, my husband for his endless spiritual support and love, Mohammad Hossein, my son for his patience and exciting cooperation at home, and Zainab, my little wee sweetie girl who came to this world in the middle of my thesis. It is my pleasant duty to be very grateful to my parents throughout my life, for giving birth to me in the first place, then nurturing me on the right trajectory and supporting me spiritually.

Declaration

I declare that the research contained in this thesis, unless otherwise formally indicated within the text, is the original work of the author. The thesis has not been previously submitted to this or any other university for a degree, and does not incorporate any material already submitted for a degree.

Signature:

Date: 31 Dec 2016

Table of contents

Abstract	ii
Acknowledgements	iii
Table of contents	v
List of Figures	xii
List of Tables.....	xiii
Chapter 1: Introduction	15
1.1. Background of Study	15
1.2. Significance of Study	19
1.3. Purpose of Study	22
1.4. Research Questions	23
1.5. Structure of the Thesis.....	24
1.6. Definition of Terms	26
Chapter 2: Critical Thinking	28
2.1. Introduction	28
2.2. Critical Thinking in a Historical Perspective	28
2.3. Definitions of Critical Thinking	31
2.4. Critical Pedagogy	35
2.5. Approaches to Teaching Critical Thinking Skills	37
2.6. Transferability of Critical Thinking	38
2.7. Critical Thinking and Other Types of Thinking.....	39
2.7.1. Critical Thinking and Reflective Thinking	40
2.7.2. Critical Thinking and Creative Thinking	41
2.8. Teachers' Perception of Critical Thinking	42
2.9. Conclusion.....	47
Chapter 3: Religious Education	48

3.1.	Introduction	48
3.2.	A Brief History of Catholic Schools in Scotland	48
3.3.	The Evolution of Religious Education in Scotland	49
3.3.1.	Religious Education in Non-denominational Schools	50
3.3.2.	Religious Education in Roman Catholic Schools	50
3.4.	National Curriculum Documents of Religious Education in Scotland.....	51
3.4.1.	‘Curriculum for Excellence’ Documents for Religious Education	51
3.4.2.	‘This is Our Faith’ Document	51
3.5.	Different Approaches to Religious Education.....	52
3.5.1.	Confessional Religious Education	52
3.5.2.	Liberal Religious Education (Non-Confessional Approaches).....	53
3.5.3.	Catholic Religious Education.....	53
3.5.4.	Phenomenological (or Descriptive) Approach.....	56
3.5.5.	Critical Religious Education	57
3.5.6.	Interpretive Approach	58
3.5.7.	Narrative Approach.....	60
3.6.	Critical Thinking and Approaches to Religious Education.....	61
3.7.	Conclusion.....	64
Chapter 4: Methodology		66
4.1.	Introduction	66
4.2.	Overall Research Design	66
4.3.	Main Steps of the Study	70
4.3.1.	Pilot Study.....	71
4.4.	Selection of Data Sources.....	74
4.4.1.	Selection of the Schools	74
4.4.2.	Selection of Curriculum Documents.....	75

4.4.3.	Selection of RE Teachers as the Interviewees	76
4.5.	Data Collection Procedure.....	76
4.5.1.	Interview	76
4.5.1.1.	Semi-Structured Interview.....	77
4.5.1.2.	Implementation of Interviews.....	79
4.6.	Data Analysis Procedure	80
4.6.1.	Curriculum Document Analysis.....	81
4.6.2.	Interview Analysis	84
4.7.	Trustworthiness (Validity and Reliability).....	86
4.8.	Reflexivity	90
4.8.1.	Insider Status	91
4.8.2.	Outsider Status	92
4.9.	Challenges and Ethical Consideration.....	93
4.10.	Conclusion	94
Chapter 5:	Framework of Critical Thinking	96
5.1.	Introduction	96
5.2.	What Would an Appropriate Framework for this Study Look Like?.....	97
5.3.	Frameworks of Thinking Skills.....	99
5.3.1.	Bloom's Taxonomy of Educational Objectives	100
5.3.2.	Anderson and Krathwohl's Revision of Bloom's Taxonomy	100
5.3.3.	Integrated Model for Understanding Thinking and Learning, by Moseley et al.	101
5.4.	Frameworks of Critical Thinking	102
5.4.1.	Ennis's Taxonomy of Critical Thinking Dispositions and Abilities ..	102
5.4.2.	Halpern's Reviews of Critical Thinking Skills and Dispositions	105
5.4.3.	Paul's Model of Critical Thinking	107

5.5.	Developing the Framework of Critical Thinking in Religious Education	109
5.5.1.	Lower Level Thinking Skills	111
5.5.2.	Higher Order Skills: Critical Thinking Cognitive Skills.....	112
5.5.3.	Higher Order Skills: Critical Thinking Meta-Cognitive Skills.....	113
5.5.4.	Dispositions.....	114
5.6.	Refinement of the Framework.....	119
5.7.	Conclusion.....	119
Chapter 6: Critical thinking in Curriculum Documents of Religious Education in Non-denominational and Roman Catholic Sectors		121
6.1.	Introduction	121
6.2.	Critical Thinking in the ‘Curriculum for Excellence’ Document	122
6.3.	Critical Thinking in the RME and RERC Documents in ‘Curriculum for Excellence’	124
6.3.1.	Lower Level Thinking Skills in RME and RERC Documents	125
6.3.2.	The Use of the Term ‘Critical Thinking’ in RME and RERC Documents	129
6.3.3.	Elements of Critical Thinking in RME and RERC Documents.....	132
6.4.	Comparison of RME and RERC Documents Based on Integration of Critical Thinking	136
6.5.	Critical Thinking in <i>This is our Faith</i> Document.....	139
6.5.1.	Lower Level Thinking Skills in <i>This is our Faith</i>	139
6.5.2.	The Use of the Term ‘Critical Thinking’ in <i>This is our Faith</i> Document	141
6.5.3.	Elements of Critical Thinking in <i>This is our Faith</i> Document	142
6.6.	Overall Comparison of RME, RERC and <i>This is our Faith</i> Documents Based on Critical Thinking.....	144
6.7.	Thematic Analysis of RE Curriculum Documents.....	147
6.7.1.	Approaches to Religion in RME and RERC Documents	147

6.7.2. Position of Truth and Personal Search in RME and RERC Documents.....	151
6.7.3. Learning About and From Religions.....	152
6.7.4. Balance.....	153
6.8. Different Types of Critical Thinking in RE Curriculum Documents.....	155
6.9. Summary of Findings	157
6.10. Conclusion	157
Chapter 7: Teachers' Understanding of Critical Thinking.....	159
7.1. Introduction	159
7.2. Religious Education Courses in Non-denominational and Roman Catholic Schools.....	160
7.3. Approaches to Critical Thinking	170
7.3.1. Comparing Understandings of Elements of the Critical Thinking Framework.....	170
7.4. Overall Approaches to Critical Thinking	176
7.4.1. Critical Thinking Coherent with the Framework.....	176
7.4.2. Generalised View of Critical Thinking.....	177
7.4.3. Critical Thinking as Formal Philosophical Thinking.....	178
7.4.4. Maturity Approach to Critical Thinking (Age Related).....	182
7.4.5. Critical Thinking as Intertwined with RE	185
7.5. Similarities and Differences in Teacher's Understanding of Critical Thinking in the two Types of Schools.....	187
7.6. Teachers' Knowledge Regarding Critical Thinking in Key RE Curriculum Documents.....	191
7.7. Summary of Findings	194
7.8. Conclusion.....	195
Chapter 8: Summary and Discussion	196
8.1. Introduction	196

8.2.	Conceptual Framework of Critical Thinking in Religious Education.....	198
8.2.1.	Distinguishing Aspects of This Framework.....	198
8.2.2.	Workability of the Framework in Analysis of Teachers' Accounts and RE Curriculum Documents.....	199
8.2.3.	Applicability of Framework to Other Subject Areas	201
8.2.4.	Improvement of the Framework through the Research.....	201
8.3.	Integration of Critical Thinking in RE Curriculum Documents.....	203
8.3.1.	Similarity in Emphasis on Lower Level Skills in RE Documents of Both Sectors.....	203
8.3.2.	Similarity in Development of Critical Thinking in the Process of Teaching and Learning RE	205
8.3.3.	Vagueness of Documents in Defining and Developing Critical Thinking.....	206
8.3.4.	'Respectfulness in Facing Divergent Beliefs' as a New and Frequently Used Disposition in RE.....	207
8.3.5.	More Emphasis on Dispositions in Documents of the Roman Catholic Sector.....	209
8.3.6.	Differences in Approaches to Religion and their Relation to Critical Thinking in Documents	210
8.4.	Teachers' Understanding of Critical Thinking in Religious Education	216
8.4.1.	Similar Expression of Elements of Critical Thinking	217
8.4.2.	Variety of Teachers' Overall Approaches to Critical Thinking.....	218
8.4.3.	Similar Expression of Dispositions in Teachers' Perceptions of Critical Thinking.....	221
8.4.4.	Lack of Sufficient Awareness of Developing Critical Thinking	222
8.4.5.	Lack of Complete Knowledge amongst Teachers of Integration of Critical Thinking in RE Curriculum Documents.....	223
8.5.	Conclusion.....	225
	Chapter 9: Conclusions and Implications	225

9.1. Introduction	227
9.2. Results	228
9.2.1. Designing the Operational Framework of Critical Thinking	228
9.2.2. Integration of Critical Thinking in RE Curriculum Documents	231
9.2.3. Teachers' Perceptions of Critical Thinking	233
9.2.4. Role of RE Curriculum Documents in Teachers' Understanding of Critical Thinking	236
9.3. Key Findings of the Research	237
9.4. Implications for Practice	238
9.5. Implications for Research.....	240
9.6. Summary	241
References	243
Appendix A: Approval of Undertaking Research in Schools of Local Authority ...	258
Appendix B: Request for Access for Research Purpose	259
Appendix C: Informed Consent Form	260
Appendix D: Interview Schedule	262
Appendix E: Overall approaches to critical thinking in RE teachers' views.....	264

List of Figures

Figure 1 : The hierarchical framework of critical thinking designed in this study ..	118
Figure 2: The process of forming RE courses in non-denominational schools	162
Figure 3: The process of forming RE courses in Roman Catholic schools	163
Figure 4: The improved framework of critical thinking in this study.....	230

List of Tables

Table 1: The number of selected schools of different local authorities	75
Table 2: Ennis’s taxonomy of critical thinking dispositions and abilities (Ennis, 2011, p.6)	104
Table 3: Critical thinking skills and dispositions in Halpern’s review of critical thinking (Halpern, 1998, p.452).....	106
Table 4: Different parts of critical thinking in Paul’s model of critical thinking (Paul, 1993, p.21)	108
Table 5: The elements in the framework of critical thinking.....	117
Table 6: Examples of lower level thinking skills and sub-skills and their frequencies in RME and RERC documents of ‘Curriculum for Excellence’	128
Table 7: Examples of critical thinking themes evident in RME and RERC documents of Curriculum for Excellence	130
Table 8: Examples of critical thinking elements and their frequencies in RME and RERC documents of ‘Curriculum for Excellence’	135
Table 9: Comparison of the number of elements of the framework evident in RME and RERC documents	137
Table 10: Evidences of lower level skills and sub-skills and their frequencies in ‘This is our Faith’ document	140
Table 11: Examples of critical thinking and its elements and their frequencies in ‘This is our Faith’ document.....	143
Table 12: Comparison of the number of the elements of framework of critical thinking evident in all policy documents of religious education	145
Table 13: The themes extracted to compare the RE documents with each other	154
Table 14: Factors considered by RE teachers in different schools in selection of RE issues	165
Table 15: Factors considered by RE teachers in different schools in selection of RE resources.....	168
Table 16: The examples of critical thinking elements evident in teachers’ accounts of critical thinking	172

Table 17: Characteristics of different levels of critical thinking based on the degree of critical thinking formality	180
Table 18: Factors shaping RE teachers’ understanding of critical thinking in different schools.....	190
Table 19: Codes and themes for RE teachers’ knowledge of critical thinking in RE curriculum documents	192

Chapter 1: Introduction

1.1. Background of Study

Over the last 20 years, critical thinking has been the focus of much academic study in different disciplines and from different perspectives. Many scholars have examined critical thinking from different perspectives (such as psychological, philosophical, and critical pedagogical), and, perhaps as a result of this multi-disciplinary attention, it seems that there is no exact definition of critical thinking with which all of them agree. From the *psychological* perspective critical thinking is understood as higher order thinking skills and this approach focuses on learning and instruction processes (e.g. Halpern, 1998; Kuhn, 1999). The *philosophical* viewpoint considers critical thinking as the rational aspect of human thought and the norm of good thinking (Gibson, 1995). The *critical pedagogy* viewpoint refers to the capacity to recognise and overcome social injustice (Ten Dam and Volman, 2004). The purpose of this study is to explore critical thinking as it appears in curriculum documents relating to religious education, and related teachers' perceptions. The understanding of critical thinking which it uses is drawn from the psychological perspective.

The significance of critical thinking in education can be discerned by exploring research conducted across a variety of educational contexts such as nursing education (Del Bueno, 2005; Cassum et al., 2013), adult education (Garrison, 1991), online distance education (Bullen, 1998), management (Gold, et al., 2002), citizenship education (Ten Dam & Volman, 2004), science (Alosaimi, 2013), social science (Alazzi, 2008; Kanik, 2010), and mathematics (Innabi et al., 2007). This broad consideration of critical thinking in different disciplines illustrates the importance attached to critical thinking in education in the later 20th and early 21st century.

Critical thinking as an educational goal can be traced in the purposes of curricula in different countries. It has been emphasised in recent government documents on higher education in several countries including the UK, Australia, New Zealand, North America and elsewhere (Pithers and Soden, 2000). For example, critical thinking has been established as a goal for students in the United States: "The proportion of college graduates who demonstrate an advanced ability to think critically, communicate effectively, and solve problems will increase substantially" (National Education Goals

Panel, 1991, p.62). It has been argued that teaching the curriculum critically and attempting to improve critical thinking in students will increase the chance of developing individuals who are able to evaluate their own thinking. Applying critical thinking in different school subjects not only provides deeper understanding of the content of those subjects but also enables students to transfer this higher order thinking ability to out-of-classroom situations (Semerci, 2003, cited in Yucel, 2008).

The education system in Scotland also appears to be moving in this direction. The term ‘critical thinking’ is now commonly found in Scottish education curriculum documents and it is often mentioned as one of the expected outcomes of different curriculum areas. The *Curriculum for Excellence* which introduces an enriched curriculum from 3 to 18 years and is currently being implemented in schools in Scotland, aims to enable each person to be “a successful learner, a confident individual, a responsible citizen and an effective contributor” (*Curriculum for Excellence*, 2015). The emphasis on critical thinking is shown by its inclusion in the official purposes of the *Curriculum for Excellence*:

“To enable all young people to become...effective contributors...able to apply critical thinking in new context [and] successful learners...with...openness to new thinking and ideas” (ibid.)

In addition to the overall purpose of *Curriculum for Excellence*, critical thinking is a significant element emphasised in the *Principles and Practice* document (in *Curriculum for Excellence*) of different curriculum areas in Scotland. As will be shown in Chapter 6, there are eight curriculum areas in Scottish education in each of which development of critical thinking is introduced as a purpose of teaching and learning those subjects (*Curriculum for Excellence*, 2015).

In spite of this overall trend towards developing critical thinking in the Scottish education system and elsewhere, there is a lack of understanding about how, and to what extent, critical thinking is integrated into the teaching of religious education at different levels of the education system. The integration of critical thinking in religious education is a very attractive and important topic for academic study, because of two factors. Firstly, the integration of critical thinking in religious education seems inherently paradoxical. On the one hand the fundamental questions addressed in this subject area clearly create a fertile environment for the nurturing of critical thinking. On the other hand, some of the

traditional approaches to religious education which involve confessional and doctrinal methods (see Chapter 6) may not be totally aligned with the core idea of critical thinking. This offers an attractive puzzle for academic research to explore how this paradox plays out in different educational settings. Secondly, compared to other subject areas, the integration of critical thinking in religious education has not been subject to previous scholarly research (as discussed below).

This paradoxical situation offers a unique and illuminating instance of the integration of critical thinking in educational curricula. In addition, the availability of two different settings, non-denominational and Roman Catholic, provides the opportunity to understand the integration of critical thinking in different settings for religious education.

Non-denominational schools are state-funded schools in which pupils learn about and from world religions and non-religious views in a secular environment. Roman Catholic schools form the largest group of faith-based, state-funded schools in Scotland, and in them religious education is taught in a different way. Catholic Christianity is introduced as the dominant world view, which involves objective truth, although respect for other world religions and views independent of religion are also promoted. Although religious education is not presented similarly in these two types of schools, developing the skills of critical thinking in the process of teaching and learning RE is addressed in curriculum documents relating to both sectors (Education Scotland, 2015b, 2015c). This study was designed to investigate how critical thinking is integrated in religious education curriculum in non-denominational and Roman Catholic secondary schools in Scotland.

Religious education is one of a number of under researched curriculum areas, as there is little analytical writing on religious education in Scottish schools (Riddell, et al., 2009). This lack of research attention to RE generally is even more pronounced in relation to critical thinking research specifically. In spite of several studies on the integration of critical thinking in many subject areas (as mentioned above), no study has explicitly analysed critical thinking in religious education in Scotland or indeed in any other country. However, there are empirical studies on religious education from different perspectives which have some relevance to critical thinking. For instance, Nixon (2009) acknowledges recent developments in RE, in moving from a confessional approach toward a philosophical approach to RE in Scotland. The factors of ‘philosophication’ used in his study seem very close to critical thinking elements such as the ability to

analyse, to question orthodoxies and using reasoned arguments (ibid.). What philosophy can bring to RE is to help students to become “more thoughtful, more reflective, more considerate, and more reasonable individuals” (Fisher, 1990, p.157). Another benefit of the philosophical approach is that it improves critical thinking skills and encourages discussion of the sort of ultimate questions, such as “why are we alive?” which are a significant part of RE (Thorpe, 1997). This approach aims to “encourage students to see themselves as thinkers and enquirers not as passive recipients of a pre-determined body of knowledge” (McFarlane, 1991, p.106).

Based on the analysis of policy documents and questionnaires completed by teachers of nine RE departments of one local authority, Nixon (2009) concluded that this trend of ‘philosophication’ had happened in RE in Scotland. Furthermore, he argued that this could have emerged against the broader social changes characterised by post-modernity, secularization and democratic approaches to education. Although he documented why this overall trend of ‘philosophication’ had occurred as part of broader long-term social changes, he did not address how and to what extent RE curricula are shaped in order to support this trend. There was no detailed analysis of critical thinking and the extent to which it was integrated in RE documents. Nor did he consider the particular factors which may constrain, induce or shape the integration of critical thinking in RE beyond the broad social change, such as the particular philosophy and approaches to RE different education systems may hold.

Another empirical and analytical study on teaching materials concerning world religions used in schools in England also demonstrated considerable changes in RE in England (Jackson et al., 2010). One of its key findings was that the development of critical thinking was given higher priority by the majority of teachers in RE than knowledge about religions.

Additionally, another large study on RE in 24 secondary schools in Scotland, England and Northern Ireland confirmed the central role of critical thinking in religious education, (Baumfield, 2009). In line with the result of this study, Conroy says:

“There is quite a lot of agreement that RE should help students develop critical capacities and thoughtful insights; it should open their imaginations to others and help foster tolerance and goodness. Moreover, there is much agreement about the practices

and methods to be adopted in the classroom, (enquiry-based; student-centred; active-learning)” (Conroy, 2009, p.50).

Therefore, while many studies have examined critical thinking in the education system generally and in different subjects such as science (Barak, 2007; Malamitsa, et al., 2009; Alosaimi, 2013), civic education (Yang and Chung, 2009), social science (Alazzi, 2008; Kanik, 2010), mathematics (Innabi et al., 2007), to the best of my knowledge there has been no academic attempt to explore deeply to what extent and in what ways critical thinking is integrated in RE curricula in Scotland or elsewhere. Therefore, this empirical and analytical study on the integration of critical thinking in religious education curricula documents and related teachers’ perceptions aims to contribute new knowledge. This is about the ways critical thinking may enter into education systems, and the possibilities and constraints, particularly in sensitive settings. The results of this study are also important for curriculum improvement and development in the future as well as being of interest to practitioners. The importance of this study and the detail of its contribution to knowledge are described in the next section.

1.2. Significance of Study

The research I carried out in my previous degree concerning the position of thinking in Islamic education has encouraged me to continue in this field and examine the claimed tension between critical thinking and religion in a new context. When I conducted my previous research on thinking in Islamic education, it seemed to me that one of the less developed and most controversial issues is the relationship between critical thinking and religion. As a result, following my curiosity and interest in working on religion from a critical perspective, I was guided to continue to explore the field of critical thinking in a new context. As an Iranian Muslim woman working on religious education in Scotland and collecting data from Scottish non-denominational and Roman Catholic schools, a unique position was created. Although I did not belong to the Roman Catholic population, as a Muslim (which was clear from my hijab) I was a partial insider on one hand. On the other hand, I was partial outsider in this study as I came from a country with a different culture and language from those in Scotland and had a different faith background from the participants in both the Roman Catholic and non-denominational schools. I benefited from the insider account, as I was familiar with the broad context of religious education. However, my position as an outsider created a situation in which I

was able to freely ask basic things about the situation of religious education in their school.

The reason for choosing to study critical thinking in RE is connected to the nature of religion. What seems particular to the subject of religious education is the fact that human knowledge is not the *only* source of true knowledge and understanding. In other words, there are always elements of knowledge sources with reference to a kind of ‘external’ authority such as holy religious texts sent by God. Religious education curricula, particularly in faith schools such as the Roman Catholic schools in this study, are also based on the facts, values and beliefs which provided through these external sources of understanding and might not be allowed by teachers to be questioned. The parallel existence of multiple sources of knowledge, one based on human understanding and others based on external sources could be potentially a source of tension, where they provide inconsistent claims about the same issue. These potential tensions could have a higher probability of emerging in faith schools, where the emphasis is usually on a particular worldview inspired by a specific religion and there might be less room for alternative perspectives. As a result, because there are some issues in RE which are apparently illogical (e.g. miracles are, by definition, against the laws of nature) but which might be presented as not open to question or examination, studying critical thinking in RE is of particular interest.

These have been the main reasons for some extreme liberal perspectives which have argued for the removal of religious education from school curricula in general and the end of faith based schools. In comparison to other subjects in the curriculum, it is argued, from a non-faith position, that because religious beliefs and claims seem non-rational, if not irrational, any kind of RE necessarily involves some sort of indoctrination (Carr, 2004), an approach clearly inconsistent with critical thinking. These kinds of strong statements about the inconsistency of religious claims and propositions with rationality and reasonability make studying critical thinking in religious education particularly interesting.

The Scottish education system includes non-denominational schools and Roman Catholic schools as the majority of faith schools, as well as a small number of other faith schools which are not considered in this research. These school sectors have different RE curricula with different relationships to religion, and this provided an interesting context

for this study. Both types of schools (non-denominational and Roman Catholic) operate within a shared external policy framework, although there are some curriculum and guidance documents particular in the Catholic sector, and are equally subject to social forces to integrate critical thinking into their RE curricula. On one hand, social and cultural transformations have given rise to a multicultural and plural society in which no single truth claim is easily accepted (O'Brien and Macleod, 2009), while on the other hand, the national curriculum (*Curriculum for Excellence*) clearly supports critical thinking. However, the particular approaches to religious education in each sector could mediate and shape the ways in which critical thinking is integrated in religious education. In other words, although both types of schools are working in similar legal and socio-cultural contexts, their different approaches to RE could shape their specific responses to the forces calling for integration of critical thinking in RE.

In this context, empirically investigating the integration of critical thinking in curriculum documents and teacher's perceptions in religious education in both sectors could be valuable. Thus, the aim of this comparative study was to find out the differences and similarities of RE regarding critical thinking in two types of schools in the 'same' society. This provided an opportunity for me to explore how critical thinking might be presented differently in the RE curriculum documents of the two kinds of schools and also how RE teachers in those schools understand critical thinking. The teachers, as the agents of change, specifically in *Curriculum for Excellence* (SEED, 2006), have a central role in introducing critical thinking in religious education. Moreover, the analysis of RE curricula documents (see Chapter 6) revealed that these documents did not define the term 'critical thinking' clearly, creating vagueness and the possibility of very different interpretations for the teachers. Therefore, in the light of this lack of precision, discovering how critical thinking was perceived by teachers who were supposed to be operating within the framework of these documents became significant.

In addition to an analysis of the RE curricula documents, initially I aimed to analyse the RE resources in use in these two types of schools, to explore the incorporation of critical thinking into different topics in those resources. However, the analysis of interviews showed the key role of teachers in teaching through and implementing those resources. In other words, even if the elements of critical thinking could be found in RE resources this would not show how the teaching of critical thinking was implemented in the classroom. Instead, how the teachers understood critical thinking and its relationship with the subject

matter was more crucial in this process. Thus I decided to analyse the teachers' perception of critical thinking rather than RE resources. However, RE resources were collected and several topics and issues were analysed from the perspective of critical thinking, although not as many as originally planned. Due to limits of space, and the limitations of what can be claimed on the basis of this work, the result of the analysis of the resources is not reported in the thesis.

1.3. Purpose of Study

The purpose of this research was to investigate critical thinking as an educationally significant element in the curriculum of religious education in Scotland. Accordingly, this study was concerned to find out whether and how critical thinking was integrated into the RE curriculum documents of two different sectors, non-denominational and Roman Catholic, and also how RE teachers understood critical thinking.

Consequently, this research comprised three studies:

The first study worked towards the development of an operational framework of critical thinking, one which would have the potential to be used for future analysis of curriculum documents across all curriculum areas. The framework was designed by examining the existing and well-known frameworks and taxonomies of thinking skills, and particularly critical thinking. In addition to the elements of critical thinking (higher level thinking skills and dispositions), this framework also included the lower level thinking skills. Therefore, this was a hierarchical framework, developed to capture the levels of thinking skills emphasised in RE documents, and also to help to find the similarities and differences in the integration of critical thinking in these documents. This theoretical framework was also applied in analysing the teachers' understandings of critical thinking.

In the second study I analysed the curriculum documents of religious education in both sectors, based on the framework of critical thinking. These documents comprised the Religious and Moral Education documents of *Curriculum for Excellence* for the non-denominational sector, the Religious Education documents of *Curriculum for Excellence* and *This is our faith* for the Roman Catholic sector. The aim of the second study was to analyse and explore the incorporation of critical thinking in these documents.

In the third study, the teachers, who play key roles in the development of critical thinking, were interviewed. The interviews were conducted with nine RE teachers, five in five different non-denominational schools and four in three Roman Catholic schools. The purpose of the interviews was to find out what was the teachers' understanding of critical thinking and, accordingly, the framework was used to analyse their perceptions of critical thinking. The complementary purpose was to explore similarities and differences of RE teachers' accounts of critical thinking in two different types of the schools: non-denominational schools and Roman Catholic schools. In addition, the role of the curriculum documents in shaping these understandings was also explored.

1.4. Research Questions

According to the purpose of study the research questions were:

1. What is an appropriate framework for the analysis of critical thinking in religious education?
2. What types of critical thinking are evident in relevant national curriculum documents for religious education?
3. How do RE teachers of S3 in non-denominational and Roman Catholic secondary schools understand critical thinking?
4. What are the similarities and differences in teachers' understanding of critical thinking in the two types of schools?
5. What is the role of RE curriculum documents in shaping teachers' understanding of critical thinking in religious education?

To answer the first question, I designed an operational framework of critical thinking. The general elements in this framework and its workability in the analysis in this study revealed that this analytical tool had the potential to be applied not only in RE but also in other curriculum areas.

The second question was answered through the analysis of RE curriculum documents related to both the non-denominational and Roman Catholic sectors. This analysis was

performed based on the framework of critical thinking designed in the first part of this study, to explore the way in which critical thinking was embedded, explicitly or implicitly, in those documents.

In order to answer the third and fourth questions, data collected from interviews with 9 RE teachers from both kinds of schools was analysed according to the framework of critical thinking. The analysis revealed and compared the teachers' perceptions of critical thinking.

Having analysed RE curriculum documents and the teachers' accounts of critical thinking, the findings from both the analyses were mapped against each other to provide answers to the final question.

1.5. Structure of the Thesis

This thesis is organised in 9 chapters:

Chapter 1: In this chapter I have introduced the research by addressing the background to the study. A brief review of studies on critical thinking in a variety of contexts, and on religious education from different perspectives established a gap in, and the significance of research on critical thinking in RE. The theoretical and empirical significance of the study, in addition to the purpose of this research, were explained in this chapter. Finally, the research questions and definition of key terms were stated.

Chapter 2: This chapter presents an overview of the history of critical thinking and different perspectives of critical thinking, particularly the psychological view of critical thinking, including higher order skills and dispositions, as this was deemed to be most appropriate for the purpose of this study. Common definitions of critical thinking are examined and explained, in addition to different approaches to teaching critical thinking. As a final point empirical studies on the teachers' perceptions of critical thinking in different curriculum areas are reviewed.

Chapter 3: This chapter discusses religious education and its developments within the Scottish education system. The current curriculum documents of religious education for both sectors, non-denominational and Roman Catholic, are introduced. In addition,

different theoretical approaches to RE and their possible relations to critical thinking are discussed.

Chapter 4: After articulation of the research questions, the proposed research design for this study to answer these questions is explained. The developed research design is a qualitative comparative study, initially based on a review of the theoretical and empirical literature in the fields of critical thinking and religious education. This chapter outlines the stages and procedures of the study: the pilot study, data collection, data analysis, validity and reliability, as well as covering reflexivity and ethical issues.

Chapter 5: One of the aims of this thesis was to develop a framework of critical thinking which could subsequently be used for the analysis of religious education curricula documents and teachers' perceptions. In this chapter I explore the existing frameworks of thinking skills and also critical thinking. This review shows that, although useful, none of the existing frameworks are adequate for the purpose of this study. As a result, I designed an operational framework of critical thinking to analyse RE curricula documents in order to investigate the extent to which critical thinking is embedded in them and to explore teachers' understanding of critical thinking. This hierarchical framework of critical thinking, presented in this chapter, consists of lower level thinking skills, higher level skills of critical thinking and dispositions. Thus, by identifying the levels being emphasised in documents or by teachers, it can capture the similarities and differences in the integration of critical thinking in RE documents and in teachers' accounts.

Chapter 6: This chapter reports the analysis and comparison of RE curriculum documents of both sectors in terms of critical thinking. The analysis leads to interesting findings, including an emphasis on lower level thinking skills in all RE documents, particularly in the *Experiences and Outcomes* of S3, in comparison to critical thinking skills, emphasis on the development of critical thinking in the process of teaching and learning RE in these documents, together with the vagueness of all RE documents in defining critical thinking. In addition, three different types of critical thinking, according to the approaches of these documents to religion, are identified. These are critical thinking within religion in *This is our Faith* document, critical thinking between religions in the RERC document and critical thinking concerning religion in the RME document.

Chapter 7: The analysis of teachers' interviews according to the framework of critical thinking is reported in this chapter. Despite finding considerable similarity in teacher's perceptions of the elements of critical thinking, different approaches to critical thinking among teachers are identified, based on the analysis. These are: a generalised view of critical thinking, a formal philosophical view, an approach based on the maturity of the pupils, and an approach in which it is intertwined with RE.

Chapter 8: In this chapter, having designed the framework and then analysed the documents and the interviews in terms of its elements, all the findings of these three studies are mapped against each other and discussed.

Chapter 9: This study offers both theoretical and empirical contributions to academic knowledge, which are summarized in this chapter. The chapter explains both the theoretical contribution of the framework of critical thinking and the empirical contribution of its application in analysing the extent to which critical thinking is integrated in RE curriculum documents and shedding light on teachers' perceptions of critical thinking. It also considers its practical implications for curriculum designers and teachers in terms of the capacity of the framework to evaluate the role of critical thinking in documents and resources, not only religious education but also in other subject areas in education.

1.6. Definition of Terms

Critical thinking: Reasonable reflective thinking that is focused on deciding what to believe or do (Ennis, 2011a). The concept of critical thinking consists of the higher level thinking skills (cognitive and meta-cognitive) and dispositions toward them.

Non-denominational schools: Schools in which students explore the world's main religions, their beliefs and values, but teachers do not aim to influence pupils' religious beliefs, values or practices (Education Scotland, 2015a).

Roman Catholic schools: Schools in which teachers aim to teach religious beliefs and values and also to encourage pupils to practice them according to Catholicism (Education Scotland, 2015c).

'Religious education' course: whatever is taught in a single school year as a religious education curriculum area, including RE issues in RE resources in schools.

Curriculum documents of religious education: The official documents which support and include guidance on the teaching and learning in the curriculum area of religious education in both non-denominational and Roman Catholic sectors.

Chapter 2: Critical Thinking

2.1. Introduction

As explained in the Chapter 1, the phrase ‘critical thinking’ is used in *Curriculum for Excellence* and is often found in curriculum documents of different subject areas. While this term is common in these education contexts, some aspects of what is meant by critical thinking remain unclear. Although many scholars have worked on critical thinking from different perspectives, it seems that there is no exact definition with which they all agree. This chapter attempts to clarify the history of the concept of critical thinking and documents the changes in its meaning over time, in section 2.2. The various definitions of critical thinking from key scholars are also examined, in section 2.3. The critical pedagogical approach to critical thinking is then addressed, as one of the important views of critical thinking, but one that is different from the view taken in this study. The factors that distinguish critical thinking from reflective and creative thinking are also considered. In sections 2.5 and 2.6 I discuss the subject-specificity and transferability of critical thinking, which are key issues in the development of critical thinking. In the final section, studies on teachers’ perception of critical thinking are reviewed.

2.2. Critical Thinking in a Historical Perspective

While the term ‘Critical Thinking’ has a significant role in recent times particularly in education, it is not obvious, to the best of my knowledge, when this phrase was used for the first time and by whom, nor when ‘critical thinking’ first entered into the field of education. Some researchers believe that critical thinking has intellectual roots as ancient as Socrates’ time, 2500 years ago and that critical thinking was the philosophers’ main tool for reasoning and trying to find truth (e.g. Paul, Elder and Bartell, 1997; Thayer-Bacon, 1994; Streib, 1992). In this view, philosophers such as Socrates, Plato, Aristotle, Descartes, Kant and others made different contributions to the concept of critical thinking without addressing this term directly (Paul, et al., 1997; Streib, 1992). Paul, et al. (1997) describe how the idea of critical thinking started with ‘Socratic questioning’ and was developed by other philosophers and was also applied by other scholars in different fields, such as economics, sociology, language, and biology. In the 20th Century William Graham Sumner, a sociologist and anthropologist argued that the tendency of schools in

general was to provide uncritical instruction and he “recognized the deep need for critical thinking in life and in education” (Paul et al., 1997). It seems, however, that Sumner did not use the term ‘critical thinking’ when he spoke about criticism and its necessity in education:

“Criticism is the examination and test of propositions of any kind which are offered for acceptance, in order to find out whether they correspond to reality or not” (Sumner, 1906, p.623).

It was Paul (1997) who interpreted this ‘criticism’, called for by Sumner, in terms of the application of the concept of critical thinking in the context of education. Sumner (ibid.) remarked that the critical faculty is an outcome of education and makes this point that if we have “teachers who insist on accuracy and a rational control of all processes and methods, and hold everything open to unlimited verification and revision”, we will have educated students who “are slow to believe and can hold things as possible or probable in all degrees, without certainty and without pain, wait for evidence and weigh evidence” (1906, p.633). In his view, a well-developed critical faculty is the main objective of a critical education, and makes good citizens (Sumner, 1906). However Sumner was not well known and his work has only been taken up by Paul (1997) and by Dewey (1910). Dewey extended Sumner’s ideas and as a result, Dewey is known as the first thinker who explicitly did research on critical thinking in education.

There are different studies on the history of critical thinking from 1910 until the present which demonstrate the start of the development of critical thinking during these years. For example Streib (1992) takes 1910 as his starting point when Dewey (1910) began to use the terms ‘critical thinking’ and ‘reflective thinking’ in his book, *How We Think*. Streib (1992) analyses the historical evolution of the critical thinking concept until 1992, when he finished his research. Paul (1997) also asserted that ‘three waves of critical thinking’, particularly in education, were in evidence from 1970- 1997.

According to Paul the **first wave** of critical thinking, in 1970 - 1982, was based on logic and reasoning and was dominated by philosophers. It seems that in this period, philosophers started to do research on critical thinking in order to insert it into education, and they suggested informal logic as an individual course of critical thinking (Paul, 1997). Paul found two problems in this wave: the theoretical problem was the transfer of critical thinking from informal logic courses to the broader curriculum, and the

pedagogical problem was the ambiguity concerning whether students would apply their critical thinking ability out of school and in the future (ibid., 1997).

The **second wave** 1980- 1993 began when many educators recognised the problem of having one stand-alone course in critical thinking and expecting learning to transfer to other courses (explained in section 2.5 below). During this time the concept of critical thinking was developed from many different standpoints including cognitive psychology, critical pedagogy, feminism, and within certain disciplines (such as critical thinking in biology, business, or nursing) (Paul, 1997). At this time there was tension in literature between those authors who argued for the subject-specificity of critical thinking (McPeck, 1989) and those who argued that it was transferable (Ennis, 1989). These arguments continue theoretically and empirically in recent research which are mentioned below in sections 2.5 and 2.6. Paul argues that, although this wave was more diverse than the first wave, it had two problems. One of them was the lack of philosophical foundation in its reformers' theory, as some of them rejected logic rather than working to expand it and some of them ignored logic and focused on the popular theories of thinking. And the other was the challenge of how to incorporate critical thinking into instruction across the curriculum (Paul, 1997).

The **third wave**, from 1990-1997, represents a commitment amongst theorists to transcend the main weaknesses of the first two waves and was concerned with integrating the insights of those two waves. At this time, Paul believed, the third wave of critical thinking was beginning to emerge and this field needed "a comprehensive theory of thinking and critical thinking", "a clear set of intellectual standards", "an integrated set of dispositions" and "a comprehensive concept of logic" (Paul, 1997, p.7). "It needed to provide a framework into which could be set integrated theories of teaching and learning in the widest variety of human contexts" (ibid.).

Having written about the history of critical thinking and its development in the 20th century, Paul (ibid.) designed what he considered to be the ideal education system based on critical thinking. He argued that if we teach students generalizable critical thinking, they need not memorize everything; they will learn to think historically, mathematically, and biologically in these courses. Moreover, they can bring the basic tools of critical thinking into every subject. But at that time he believed that: "we are far from this ideal

and now we turn to the basic concepts tested in standardized critical thinking tests” (Paul, 1997, p.7).

Having explored the most recent developments in this field from 1997 until the present, I found a variety of empirical studies addressing the improvement of critical thinking ability in students at different levels: primary school (e.g. Prihatin, 1997; Malamitsa et al., 2009), secondary school (e.g. Frijters et al., 2006; Barak et al., 2007; Cheong and Cheung, 2008; Walther, 2009; Yang and Chung, 2009) and higher education (e.g. Gellin, 2003; Jeong, 2003; Mazer et al., 2007; Hayes and Devitt, 2008; Yang et al., 2008) and also teachers’ perceptions of critical thinking (e.g. Baildon, 2009; Hashemi et al., 2010). In addition, these studies examined different methods of enhancing critical thinking, such as online discussion (Cheong and Cheung, 2008), storytelling (Gold, et al., 2002) and dialogic learning (Frijters, 2006) in various domains, including science (Barak, 2007; Malamitsa et al., 2009), Biology (Frijters, 2006), and civic education (Yang and Chung, 2009).

This growth in practical investigations around critical thinking in education during these years demonstrates the intention to move from theories and principles of critical thinking to applying them successfully in the education system.

According to Paul’s time-lines there are different perspectives of critical thinking, based on which critical thinking is defined differently. The next section aims to explore the most commonly cited definitions from well-known scholars and argues for the viewpoint that is followed in this research.

2.3. Definitions of Critical Thinking

While it has been observed that critical thinking is a complex concept and there is no definitive and agreed definition of critical thinking (Pithers and Soden, 2000; Tsui, 2006; Malamitsa et al., 2009; Yang and Chung, 2009; Hashemi et al., 2010), many researchers have worked on critical thinking and its development from different points of view, according to the aim of their work. In this section I will discuss some of these various definitions from different perspectives and analyse the elements of critical thinking included in their definitions.

There are three different points of view in defining this term. From the *philosophical* perspective critical thinking is considered as the rational aspect of human thought and norm of good thinking (Gibson, 1995). The *psychological* viewpoint defines critical thinking as the higher order thinking skills and focuses more on learning and instruction processes (e.g. Halpern, 1998; Kuhn, 1999). There is another approach to critical thinking called *critical pedagogy* which refers to the capacity to recognise and overcome social injustice (Ten Dam and Volman, 2004). Although I do not share the last viewpoint of critical thinking in this study, it is described individually in the next section. As I aim to explore the integration of critical thinking in the context of religious education as a curriculum area in secondary schools in Scotland, it seems that the psychological point of view is the most relevant perspective in this study. This perspective of critical thinking which incorporates higher level thinking skills and dispositions gives me a secure base from which to analyse and compare critical thinking in RE curriculum documents. In the rest of this section I review the definitions from this approach and discuss the way I use them to design the framework of critical thinking in this research.

One of the best known definitions of critical thinking was suggested by Ennis (1989, p.4; 1998; 2011a): “critical thinking is reasonable reflective thinking that is focused on deciding what to believe or do”. His definition considers reason or logic as the essential part of critical thinking, and views the outcome of critical thinking as a belief or an action. However Ennis (1989) does not mention the context of critical thinking. As he rejects the idea of subject-specificity of critical thinking, context is not important and critical thinking can be seen as making general improvements transferable to every subject. Ennis makes a distinction between the definition and the concept of critical thinking. He outlines a set of abilities (or skills) and attitudes (or dispositions) towards them in the concept of critical thinking (Ennis, 2011a). These skills start from identifying a problem to judging the validity and reliability of assumptions, and it seems that they should be applied during the process of solving a problem or making a decision. He also introduces a taxonomy of critical thinking based on the concept of critical thinking, which covers 16 skills and 3 main dispositions (Ennis, 2011b). This taxonomy is discussed in detail in Chapter 5 where I design my own framework of critical thinking.

Halpern (1998) had similar ideas about critical thinking, which she defined as “purposeful, reasoned and goal-directed thinking [which is] the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making

decisions” (pp.450-451). She calls critical thinking skills “higher order cognitive skills”, in contrast to lower order thinking which focuses on knowledge, comprehension and application (Ten Dam and Volman, 2004), and identifies the characteristic of higher order thinking as being “reflective, sensitive to the context and self-monitored” (Halpern, 1998, p.451). Her definition is goal-oriented too, and the emphasis is on evaluating the outcome of the thinking process. When Halpern describes the methods of transferring critical thinking to an out-of-classroom situation, it is evident that, for her, every discipline of the school curriculum is the subject of critical thinking. Halpern (1998) introduces a model to improve critical thinking in students, consisting of four components, which are: practising critical thinking skills, recognising dispositions, developing activities to transfer critical thinking, and using metacognitive elements to assess it. Her model of critical thinking is also reviewed as one of the main existing frameworks of critical thinking in Chapter 5. Although Halpern and Ennis have the same opinion about the elements of critical thinking, they provide different instructions for teaching critical thinking in education. The reason for this difference can be understood as a result of their different ideas about subject-specificity and the transferability of critical thinking that are explored in the next section.

The other definition which is close to these outlined above is presented by Facione (1992). It is based on the “experts consensus statement” which was written by a panel of experts from the US and Canada. The experts participated in a research project that lasted two years and their work was published under the title *Critical Thinking: a Statement of Expert Consensus for Purposes of Educational Assessment and Instruction* (ibid.), also known as *The Delphi Report*. Facione defines critical thinking as:

“Thinking that has a purpose (proving a point, interpreting what something means, and solving a problem) and its core skills are: interpretation, analysis, evaluation, inference, explanation, and self-regulation” (Facione, 2000, p.65).

In addition, the dispositions toward critical thinking proposed by these experts are “inquisitive, judicious, truth seeking, confident in reasoning, open-minded, analytical and systematic” (ibid., p.74). While he pays attention to the aims, skills and dispositions of critical thinking, for Facione, the most important part of critical thinking is the self-regulation skill that is involved in improving the thinking process. Self-regulation is a meta-cognitive skill which monitors one’s cognitive activities and corrects one’s reasoning and results (Facione, 1990). Without speaking about any methods to enhance

critical thinking, Facione asserts that learning critical thinking is part of the goal of a liberal education (ibid.). In his view, critical thinking helps students to be liberated from teachers and to think for themselves. It seems he goes further than just an individual outcome of critical thinking and takes into account a social aim of critical thinking. I referred to these elements of critical thinking (skills and dispositions) defined in the Delphi report in developing the framework of critical thinking in this study.

Having highlighted the self-evaluation aspect of critical thinking, Facione comes close to Paul's definition of critical thinking. Paul defines critical thinking as "thinking about your thinking while you're thinking in order to make your thinking better" (2007, p.50), or it is "that mode of thinking- about any subject, content or problem- in which the thinker improves the quality of his or her thinking by skilfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them" (Paul, et al., 1993, p.4). The point to consider here is that Paul emphasises self-improvement as the outcome of critical thinking. Furthermore, Paul places emphasis on dispositions as an essential element of critical thinking: for him, critical thinking is conceived in a weak sense if it does not include being open-minded to other people's views (Paul, 1993). Paul developed a framework of critical thinking that consists of elements of reasoning, standards of critical thinking and intellectual traits, which is considered briefly in Chapter 5.

The main and common factor in all these definitions, and others like them, is that critical thinking is viewed from educational and psychological perspectives. They emphasise the point that critical thinking is teachable and that its goal is problem solving or making decisions. According to the numerous definitions of critical thinking there is consensus between scholars in including the cognitive and meta-cognitive skills in conceptualising critical thinking. It is also evident that dispositions are essential elements to the effective use of critical thinking skills. Accordingly, I came to a conclusion that the combination of cognitive skills and meta-cognitive skills in addition to dispositions or attitudes toward these skills are the significant and necessary components of critical thinking. The details of these elements of critical thinking on which this research based are discussed in Chapter 5, where the framework of critical thinking is designed.

There is also another approach to critical thinking, which is the social and political view of critical thinking. This approach to critical thinking is called 'critical pedagogy', and is described and discussed in the next section.

2.4. Critical Pedagogy

What makes a distinction between the approaches to critical thinking is the context and the outcome of critical thinking. From a critical pedagogical perspective, the context of critical thinking is not just a particular course in education; instead the whole curriculum, teachers and their methods and even education system should be interrogated by students, and the aim of improving critical thinking is having critically thinking citizens in a democratic society.

Critical pedagogues such as Giroux and McLaren argue that critical thinking focuses too much on internal consistencies and gives less consideration to the political nature of arguments and reasoning, for example doing justice or injustice to others (Giroux, 1994). In their particular view, they look at critical thinking as an instrument to “recognize and overcome social injustice” (McLaren, 1994, cited in Ten Dam and Volman, 2004, p.362).

Giroux (1994) states that any pedagogy of critical thinking which ignores the social relations of the classroom is incomplete. In his view, if these social relations praise teachers as experts and containers of knowledge who encourage students to act passively, creativity and criticality will be stifled in students (ibid.). Students should learn how to move outside their own frame of information around them to question the authority of those issues and concepts with which they are being presented (ibid.). In other words, the infallibility of knowledge, teachers and their methods must be broken for students in order to allow them to be critical thinkers. Giroux also wants teachers to change their role in education and redefine themselves as ‘critical intellectuals’ (ibid.). Kaplan (1991) also believes that critical pedagogy prepares students to expand the freedoms available to citizens, and for him critical thinking is essential for citizens in a democracy. In line with Kaplan, Galbraith (1998, cited in Yang and Chung, 2009) emphasises that encouraging critical thinking is essential to the democratic society and by promoting it we could have citizens who are “capable of questioning the actions, justifications and decisions of political leaders”.

Based on critical pedagogy, some authors have reconceptualised critical thinking; for instance, some have moved from a psychological model to a socio-cultural model which views critical thinking as critical social practices (Baildon and Sim, 2009). This means

that students are encouraged to challenge taken-for-granted meaning and assumptions and question how knowledge is constructed and used, which requires considering issues of power, justice and identity (Baildon and Sim, 2009). Another example of reconceptualising critical thinking is suggested by Frijters et al. and is referred to as value-loaded critical thinking:

“Critical thinking joins logical reasoning with value development to enable citizens to make their own contribution to society in a critical manner with sensitive awareness” (Frijters et al., 2008, p.68).

In addition, Ten Dam & Volman (2004) take the social constructivist position and look at learning critical thinking as a social process which helps students to take part critically in the social communities to which they belong. Koh (2000) has the same idea when he mentions critical social practice as a more productive way of perceiving critical thinking and proposes critical literacy. For him this approach is politically different from critical thinking and in this view students should be encouraged to ask about the cultural and ideological assumptions underwriting any text (Koh, 2000).

Therefore there are differences between the educational approach and the critical pedagogy approach to critical thinking. The domain of critical thinking in the first view is an area of study in the classroom and it attempts to make use of current knowledge in the process of argumentation (Etsuko, 2009). In contrast, “the domain of critical pedagogy is not only in the classroom but extends towards the outside world” and its aim is “to foster critical citizens who can actively engage in transformative action for democratic societies, thus it originally has a political mission” (ibid., p.12).

In other words, according to the critical pedagogical point of view, critical thinking should go beyond problem solving, which has limited results in the classroom, and move towards empowering students to understand whatever is behind textbooks, teaching methods and curriculum and critique them.

Thus, this approach considers the social and political aspect of critical thinking, which is different to the psychological viewpoint of critical thinking. Although the critical pedagogical perspective of critical thinking is a significant approach, it is out of the scope of this study, which aims to focus on the psychological aspects of critical thinking in RE curriculum documents and the teachers’ perception of critical thinking. Consequently, in

the remaining sections of this research, I investigate critical thinking in religious education from the psychological viewpoint, in which critical thinking consists of cognitive and meta-cognitive skills and dispositions.

2.5. Approaches to Teaching Critical Thinking Skills

The answer to the question of whether critical thinking could be taught as general skills or if critical thinking skills are subject-specific is not a simple one. There is ongoing discussion and also disagreement between scholars and exploring their ideas reveals four different approaches to teaching critical thinking skills:

- General approach
- Subject-specific approach, comprising:
 - Infusion approach
 - Immersion approach
- Mixed approach

The first group of authors argue that critical thinking should be taught as certain general skills and dispositions, separately from the content. In that way they emphasise teaching critical thinking independently of any subject area and in separate courses, such as informal logic or a critical thinking course (Ennis, 1989; Lipman, 1991; Paul, 1985). The proponents of this approach believe that in this method students concentrate on the intellectual skills rather than on the subject of a course. This model of teaching critical thinking skills, which is also called a ‘skill-oriented’ approach by Kanik (2010), raises much criticism based on its obstacles. One of them is the uncertainty regarding the ability of students to transfer these general skills of critical thinking to specific subject areas (Kong, 2005).

The second, contrasting, approach towards teaching critical thinking skills is the subject-specific method. The followers of this view, which is the content-oriented view (Kanik, 2010), suggest the incorporation of critical thinking skills into the curriculum areas, as these skills cannot be separated from the content of study. They are of the opinion that critical thinking is understood as skills and dispositions in specific subjects which vary across different subject matters (McPeck, 1990; Brown, 1997). In this respect, critical thinking is perceived “as only a loose category taking in diverse modes of thought” (Moore, 2004, p.4). Mejia (2005) has the same idea when he rejects talking about

someone's level of critical thinking in general and highlights his/her critical thinking promotion in relation to a particular issue. Ennis is one of the opponents of this approach, as he argues this model of teaching critical thinking skills would not promote the application of these skills to daily life (Ennis, 1997).

There are two different lines of thought among the supporters of the domain-specific approach: the infusion approach and the immersion approach. In the infusion method the skills of critical thinking are *explicitly* integrated into the subject matter, and students are encouraged to think critically through the explicit instruction of those skills in a specific course (Paul et al., 1999). Similar to this method is teaching critical thinking skills within the subject matter but *implicitly*, which is known as the immersion approach. Some authors criticise the infusion method, as they declare that considering the skills of critical thinking explicitly is likely to direct the attention away from the content of the subject matter. However, for other thinkers, the infusion method has more advantages than the immersion approach, as teaching critical thinking skills directly could facilitate the application of those skills to other subject areas (Ennis, 2011).

The last and most popular view is the combination of the general approach with the subject-specific, approach, either through infusion or immersion. Sternberg (1987, p.255) calls this approach the “mixed model”. In this view only some general aspects of critical thinking transfer to other subjects and are more applicable to just one subject (Facione, 1990; Tsui, 1999). In the discussion of separating a critical thinking course or embedding it in a content course, Ennis asserts that it is effective to combine both of them, and accordingly, he calls it “critical thinking across the curriculum” (Ennis, 2011, p.13). Halpern, similarly to Ennis, states that “a broad based, cross-disciplinary approach is most effective for critical thinking instruction” (Halpern, 2002, p.30). Kennedy and his colleagues (1991) after reviewing different studies on these various approaches recommend the mixed approach as a result of the lack of evidence supporting the priority of any of them.

2.6. Transferability of Critical Thinking

The term “transferability” refers to a situation in which learning a particular task helps the learning of another different task (McPeck, 1990). Then transferability of critical thinking generally takes place when abilities and dispositions of critical thinking transfer

from one domain to another domain (Ennis, 1989). Halpern (1998) describes transferability as the goal of teaching critical thinking skills, such that students not only use those particular skills, but are also able to apply them in new (out-of-classroom) situations and in the real world.

Similar to subject-specificity, there are different views of transferability of critical thinking. It seems that when Ennis (1989) discusses general critical thinking skills, those skills are understood as transferable and applicable in every domain. However, he did not present this idea explicitly.

There are two main different ideas about the transferability of critical thinking among those who think critical thinking is subject-specific. One of them states that although there are no general critical thinking skills, and they should be taught in specific subjects, they could still transfer to other subjects. For instance, Brown (1997) believes if we teach critical thinking in a specific subject, transfer to another domain is possible. Similarly, Paul et al. (1997) have the idea that there is no reason why a student cannot extend the basic tool of critical thinking they learn in one domain to all other subjects. But McPeck (1990, p.5) has a slightly different idea and argues “transfer of critical thinking is unlikely and it happens only if there is sufficient practice in a variety of domains and instruction focuses on transfer”. The second idea which is a rare one among scholars is that improving the skills of critical thinking should be conducted in every specific domain. Mejia (2005) voices this point of view; for him, enhancing critical thinking in a special subject only happens in that subject and cannot transfer to other subjects.

Nevertheless, there seems to be agreement between the majority of academic researchers that even if critical thinking skills are domain specific, they are likely to transfer to other domains as well. What is necessary in this process is teaching the methods to transfer those skills from one subject to other curriculum areas or to daily life.

2.7. Critical Thinking and Other Types of Thinking

There are some types of thinking, e.g. reflective thinking and creative thinking, which might be assumed to be synonymous with critical thinking and sometimes there is confusion in using critical thinking interchangeably with these terms. Therefore, it is necessary to clarify briefly the similarities and differences between critical thinking and

these types of thinking, in addition to the possible relationship between them.

2.7.1. Critical Thinking and Reflective Thinking

Reflective thinking is one type of thinking which seems similar to critical thinking yet has a different meaning; in this section, in the interest of clarity I identify various ideas regarding the relationship between them.

The term “Reflective” originates in Dewey’s book, ‘How we think’ (1933). Dewey calls critical thinking reflective thinking and defines it as “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends” (1933, p.6). In simple words, if we attempt to be careful about what we think in order to improve our thinking, we have the skill of self-reflection, or the ability to think reflectively. Subsequently, in defining critical thinking he contrasts it with unreflective thinking, in which during the process of solving a problem the suggested solution is accepted at once (ibid.). Paul also has the same idea and according to his definition of critical thinking, “thinking about your thinking in order to improve it” (Paul, 2007, p.50), critical thinking is reflective thinking. Following these thinkers, Noddings asserts that she rarely differentiates critical thinking from reflective thinking (2006, cited in Walther, 2009).

Whilst for some researchers these two types of thinking are similar, others identify critical thinking as a form of reflective thinking. For instance, Ennis in his widely-known definition of critical thinking as “reasonable, reflective thinking that is focused on deciding what to believe or do” (1989, p.4), considers it as a specific kind of reflective thinking. In the same way Barak et al. (2007) propose a similar definition of critical thinking, influenced by Ennis, in which critical thinking is identified as a form of reflective thinking:

“critical thinking is results-oriented, logical, and reflective evaluative thinking, in terms of what to accept and what to believe in, followed by a decision what to do” (2007, p.355).

According to their words critical thinking is a reflective type of thinking for which the result is the decision in two aspects: in belief and in action, or theoretically and practically.

Phan (2008) takes a slightly different view when he describes reflective thinking as a tool to improve meaningful learning, which helps students to develop specific skills that might help them be more critical. In his view, reflective thinking is a tool in a learning system to improve critical thinking skills in students.

As mentioned in section 2.3 and based on the different definitions of critical thinking, the understanding of critical thinking adopted in this thesis consists of cognitive and meta-cognitive skills and dispositions. Accordingly, reflective thinking (as a meta-cognitive skill) is an essential part of critical thinking in this study.

2.7.2. Critical Thinking and Creative Thinking

There are different ideas on the meaning of critical thinking and creative thinking and also the relation between them. While they are similar for some researchers, others make a distinction between these two types of thinking.

Barak and his colleagues (2007) consider critical thinking and creative thinking as two different forms of thinking. They describe higher order thinking as an ‘umbrella’ covering these different kinds of thinking. Indeed, according to their constructivist view, “higher order thinking can be viewed as the strategy – the setting of meta-objectives; whereas critical, systemic, and creative thinking are the tactics – the activities needed to achieve the proclaimed objectives” (Barak et al., 2007, p.355). However they did not define those kinds of thinking. Facione defines creative thinking as “the kind of thinking that leads to new insights, novel approaches, fresh perspectives, whole new ways of understanding and conceiving of things” (1992, p.11). Then he continues to exemplify two types of product for creative thinking: some obvious products such as “music, poetry, dramatic literature, inventions, technical innovations” and also some less clear ones, like ways of raising a question that expand the variety of possible solutions or ways of understanding the relationships that lead us to see the world in different ways (Facione, 1992, p.11).

Regarding these two kinds of thinking, some studies consider the distinction between the aims and functions of critical and creative thinking. While the aim of critical thinking is

making a decision or solving a problem, creative thinking aims to produce a new idea or form a novel reality (Perkins, 1990; Hartman and Sternberg, 1993).

For some researchers, while critical and creative thinking have two different meanings, they are intertwined with each other. For instance, Paul and Elder (2005) identify creativity and criticality: “*Creativity* masters a process of making or producing” and “*criticality* is a process of assessing or judging.” But they believe critical and creative thinking are interwoven, inseparable, integrated, and unitary (Paul & Elder, 2005). They make it clear that: “To live productively, we need to internalize and use intellectual standards to assess our thinking (criticality); we also need to generate - through creative acts of the mind - the products to be assessed.” Ennis holds the same view, in which, for him, they are interdependent; creative thinking requires critical thinking and creativity is needed in generating hypotheses and definitions in critical thinking (Ennis, 1985, 2011).

Consequently, what is common to all definitions of creative thinking that distinguishes it from critical thinking is the element of *productivity*. In other words, the end of creative thinking is producing or creating something novel, although critical thinking aims to judge or assess the ideas. Therefore, I have made it clear in this section that, although ‘critical’ and ‘creative’ thinking could have a close relation to each other, they have different purposes and different meanings.

2.8. Teachers’ Perception of Critical Thinking

Exploring the studies on critical thinking revealed different works on teachers’ perception of critical thinking in different educational contexts. To exemplify and compare the result of these studies, I have reviewed some of them in this section. For more than two decades thinking skills in general and critical thinking in particular have been promoted in national education curricula, both in the rest of the UK and in Scotland. It is therefore important to understand how teachers think about critical thinking, which could contribute to both policy and practice. One study of 26 primary schools indicates that teachers view critical thinking as the most frequent type of thinking within the curriculum, in which ‘drawing conclusions’ and ‘giving reasons’ are mostly promoted (Lynsey, 2007). Lynsey recommends that “Qualitative approaches would allow one to explore in detail teachers’ understandings and perceptions of thinking skills and how they can be implemented in the classroom.” (ibid., p.10). Nonetheless, such a study has not

been implemented to the best of my knowledge in Scotland. Given the key role of the perception of critical thinking in teachers' practices in the classroom, it is essential to understand the teachers' accounts of critical thinking in the context of different subject areas.

This thesis is designed to cover part of this gap in just one subject area, i.e. Religious Education. This subject area is not only theoretically attractive, as explained in Chapter 1, it is also empirically very novel. As will be reviewed in this section, teachers' perceptions of critical thinking have been studied in different subject areas in various countries. Nonetheless, no research has touched upon critical thinking in the context of religious education. The result of some of the most important and recent research on teachers' perception of critical thinking is reviewed in this section. While most of the teachers seem to agree on the importance of critical thinking in education, among many teachers such an agreement does not exist about the meaning and definition of critical thinking (Cassum, 2013).

Alosaimi (2013) explored the nature and development of critical thinking in the context of the science curriculum in Saudi Arabia. Interviews with 98 science teachers revealed significant differences in teachers' view on critical thinking, ranging from total ignorance of critical thinking to good theoretical information about critical thinking, but with no practical application. He found an inverse relationship between teachers' work experience and their knowledge of critical thinking, reflecting its encouragement in recent years in Saudi Arabia. Some of the teachers confused critical thinking with scientific thinking. In spite of such a diverse range of ideas about the nature of critical thinking, all teachers argued that critical thinking is an important objective of science instruction. Another study of pre-service teachers' understanding of critical thinking in Saudi Arabia also found inadequate knowledge of, and lack of relevant skills to promote critical thinking, although they expressed positive attitudes towards critical thinking (Gashan, 2015).

Another study on 89 mathematics and science teachers from seven public secondary schools in the Republic of Macedonia showed that they were not familiar with the notion of critical thinking and did not know how to develop it among students (Mitrevski and Zajkov, 2011).

Kanik (2010) also explored teachers' conception of critical thinking and practice of

critical thinking development in Turkish social science, science and technology, and mathematics subjects at seventh grade levels in the city of Ankara. Interviewing 70 teachers from 14 elementary schools, teachers were asked to provide their conception and definition of critical thinking. Providing their definitions, they often referred to different kinds of skills, as the base for critical thinking. These skills included: considering issues from different angles, the ability to link new knowledge to prior knowledge, active listening, drawing conclusions, analysing and synthesising, applying knowledge in different situations and considering similarities and differences. Some teachers, also from all four courses, related critical thinking with other higher order thinking such as creative thinking. In terms of the purpose of critical thinking, the teachers' understanding was found to be limited to one or two among the following objectives: obtain clear understanding, discover the truth, make a judgement and provide a solution to a problem (Kanik, 2010). In addition, these teachers offered some prerequisites for critical thinking, such as mastering the language, prior knowledge on the issue in hand and also intelligence, enabling students to apply critical thinking. Several dispositions such as courage to question, assertiveness, self-confidence, curiosity for learning, sensitivity, respect for others and their viewpoints were also considered important for critical thinking. In terms of criteria for critical thinking, grasping the subject, originality of the views, providing sufficient evidence, logic and clarity, genuineness of the criticism and considering the context are suggested to evaluate critical thinking in students. The last two were raised as discipline-specific criteria in Turkish and Social studies respectively (Kanik, 2010).

Another study of Jordanian secondary school social studies teachers' accounts of critical thinking confirmed low familiarity with the concept and teaching strategies. This was largely attributed to lack of obligation by the education authorities, lack of well-designed manuals for teachers and very descriptive student textbooks (Alazzi, 2008).

Innabi et al. (2007) also found that facilitating change in teacher's understanding of critical thinking is not an easy task. Investigating how Jordanian secondary school mathematics teachers' perception of critical thinking changed after 16 years of educational reform, they found no meaningful improvements. Asking 47 mathematics teachers in 12 schools both before and after the reform, they concluded there was still not a clear understanding of critical thinking. Although most of the teachers claimed they had to teach critical thinking, more than half did not know what kind of learning situation

could foster critical thinking, how they could foster it, and what the justification is to foster it in mathematics.

The importance and variety of ideas and conceptions about critical thinking is not limited to the pre-university education system. Moor's (2013) investigation of 17 academics' view on critical thinking in three different disciplines (history, philosophy and cultural studies) at an Australian university revealed seven strands of quite different definitions about critical thinking among academics. This included defining critical thinking as "(1) judgment; (2) sceptical and provisional view of knowledge; (3) as a simple originality; (4) as careful and sensitive readings; (5) as rationality; (6) the adopting of an ethical and activist stance; and (7) as self-reflexivity" (ibid., p.510). These different approaches arise from intuitive learning (Fox, 1994) and lack of sufficient conscious reflection or thinking about critical thinking.

Nonetheless, Moor (2013) concluded that this variety of definitions demonstrates developed understandings of the notion of critical thinking among academics. The interviews showed we need to view critical thinking as a multi-dimensional concept that defies a narrow reductionist view, even by a single person. In addition, the analysis of the nature of different meanings reveals that it is a contested notion where different meanings are divergent, or even incompatible. He suggests that it appears that there may be some disciplinary biases behind the variations. For example philosophers generally favour the rational and evaluative conception of critical thinking. Whatever the reason behind this variation, this complex conception has the potential to create confusion for students. As a result, we need efforts for better clarification of the meaning of critical thinking, deeply rooted in each study context, with deliberate 'dialogue and interaction' (Gee, 2004, p.54).

Cassum et al. (2013) also studied the perception of critical thinking among 12 educators from the disciplines of nursing, medicine, and education in higher education in Karachi. The main aim was to explore the similarities and differences in their understandings of critical thinking from these three disciplines. The study found that the educators viewed critical thinking as a multidirectional concept in three important aspects: its nature, acquisition and application. In terms of nature, while most interviewees could not define critical thinking, they described it: "as a skill, an art, a cognitive process, a reflective process, an outcome, an approach, an attitude, and an ethical and religious value" (ibid., p.18). They also used terms such as "good thinking, effective thinking and positive

thinking” as the concepts related to critical thinking (ibid.). In this study, participants also suggested that subjects may differ in their relevance to critical thinking, although there are some general skills required in all disciplines. For example, the education faculty perceived critical thinking as more vital in medical fields compared to the field of education, as doctors deal with life and death. Moreover, the study found in participants’ accounts of critical thinking that they believed critical thinking is rooted in the religious, moral and ethical teaching of both Islam and Christianity, where religious leaders (such as Prophets) are understood as role models in critical thinking.

Another study of higher education teachers’ accounts of critical thinking in Malaysia showed that they were teaching critical thinking to their students in order to provide an intellectual stimulus which facilitates learning among students. However, their perception of the notion of critical thinking seemed questionable. Students’ ability to explain concepts in their own words was perceived as an indication of critical thinking, with no element of a metacognitive nature. In their definition of critical thinking, teachers mostly referred to ‘intellectual stimuli’, while they were not able to describe what forms of stimuli they were talking about. The authors concluded that incomplete or inaccurate perceptions of critical thinking among teachers implies that they think they are encouraging critical thinking in the class, while they are merely pushing for comprehension, with no important element of critical thinking in that (Choy, 2009).

The studies reviewed in this section show how complex and multifaceted the concept of critical thinking may be. They also indicate how important it is to understand teachers’ accounts of critical thinking in each particular context, because this perception is highly influential in shaping how teachers practice in the classroom and the message they convey to the students. These studies also show various factors are important in how teachers perceive critical thinking, including disciplinary backgrounds, students’ grade and ability, general development of the education system of the countries, and even social and cultural factors in different countries. An interesting point explored from this review is that almost all recent empirical studies have been carried out in non-western countries, such as Saudi Arabia, Turkey, Jordan and Malaysia. It seems that there is a lack of understanding of teachers’ views of critical thinking in western countries, which will partly be addressed in the current study, in the context of Religious Education in Scotland. The empirical findings are presented in the Chapter 7.

2.9. Conclusion

This chapter has briefly reviewed the history of the term ‘critical thinking’ based on the three waves of critical thinking identified by Paul (1997). As there was not agreement on the meaning of this term, I presented and compared the most-cited definitions of critical thinking by well-known scholars. These definitions formed the main basis in designing the framework of critical thinking in Chapter 5 of this study. Moreover, two types of thinking, reflective and creative thinking, which might be mistakenly used instead of critical thinking were compared and contrasted with it. Then four approaches of teaching critical thinking regarding the subject specificity of critical thinking and also its transferability were discussed in this chapter. I referred to these two issues when discussing the result of the analysis and suggesting the implications of critical thinking in religious education. Finally, as one purpose of my study was finding the teachers’ perception of critical thinking in religious education, I reviewed some of the existing studies on teachers’ understanding of critical thinking. I also referred to their results related to my analysis in the discussion chapter. The next chapter aims to review the literature on religious education, particularly in the Scottish context.

Chapter 3: Religious Education

3.1. Introduction

Religious education is a curriculum area in the Scottish education system which is presented in two types of schools; denominational and non-denominational schools. There are 370 state-funded denominational schools in Scotland, consisting of 366 Roman Catholic, one Jewish and three Episcopalian (Scottish Government, updated 2013). Therefore, as the majority of Scottish denominational schools are Roman Catholic, this type of denominational school has been selected in this research to be studied in comparison to non-denominational ones. In the first part of this chapter I will briefly review the history of Roman Catholic schools in Scotland. Section 3.3 addresses the development and contemporary position of religious education in non-denominational and Roman Catholic schools within the Scottish education system. In addition, this chapter introduces the national curriculum documents for religious education for both sectors. The different approaches to RE will be critically explored in section 3.5. In the last section of this chapter, I discuss the relation between critical thinking and each of these approaches to religious education.

3.2. A Brief History of Catholic Schools in Scotland

Exploring the history of Catholic schools in Scotland reveals a significant change in the condition of these kinds of schools in the 19th century and particularly from 1872. Before this time there was a variety of voluntary schools funded by different sectors. In the early 19th century the Catholic Church began to establish Catholic schools (Conroy, 2001). The large-scale immigration of Catholic Irish people to Scotland was the critical point in establishing the new Catholic schools during the second half of the 19th century.

The Education (Scotland) Act in 1872 aimed to provide state-funded school education for all children and offered voluntary schools the opportunity to be funded by the state. It also made education compulsory for all children aged 5 to 13 (McKinney, 2007). However, the Catholic Church did not opt into the national scheme, as they wanted to preserve denominational status, denominational religious education and control over approval of teachers (ibid.).

Catholic schools therefore continued to be funded by the Church until 1918. Between 1872 and 1918 the Catholic schools struggled, because of the need to find the finances to run the schools, a shortage of qualified Catholic teachers and a large population of Catholic children (Fitzpatrick, 2003). The 1918 Education (Scotland) Act resulted in the transferring of Catholic schools to become fully state-funded schools, and from that time up to the present, all Catholic schools have been state-funded schools (McKinney, 2007) and open to all pupils (SCES, 2015). However, the Catholic Church retained control of the denominational status of Catholic schools, denominational religious education and approval of staff (McKinney, 2007).

Roman Catholic schools are open and inclusive to all pupils with different faith or non-faith backgrounds and Catholic parents are free to send their children to any type of school. While many of the pupils attending Catholic schools are Catholic, Scottish Catholic schools also include children of other denominations, faiths and stances independent of religious beliefs (Education Scotland, 2015c).

3.3. The Evolution of Religious Education in Scotland

In 1968 the Secretary of State for Scotland selected a committee to explore the situation of moral and religious education in Scottish non-denominational schools and to make reports for its improvement. The results of this committee's work, published in 1972 as the '*Millar Report*', were to revolutionise Religious Education in Scotland (ATRES, 2009). "Prior to this report, Religious Education in Scotland had in many ways been confessional and not educational, as well as being poorly delivered and poorly resourced" (ibid). At that time RE in Scotland was mono-religious and mainly based on Christianity (Nixon, 2009). As a consequence of the *Millar Report*, RE in Scotland has changed considerably since 1972 and became more dialogical and concerned with the rational reflection on religious claims.

In the increasingly secular and multi-cultural society, there was a movement from the confessional religious instruction approach to a non-confessional examination of the world's religions and morality, and an element of 'personal search' (SED, 1972). This approach "encourages pupils to consider the claims of religious traditions alongside their own and non-religious attempts to deal with the great existential questions" (Nixon, 2009, p.172). The personal search approach is also defined in ATRES as:

“... a process by which pupils can discover and develop their own beliefs and values. It involves them in making up their own minds on religious and moral issues by developing skills associated with critical thinking and evaluation” (ATRES, 2009).

Religious education is one of the curriculum areas in the Scottish education system now including a wide range of beliefs, from different branches of the Christianity to the world's other major religions and also beliefs independent of religion (Education Scotland, 2015b). The Education (Scotland) Act 1980 made RE a statutory requirement.

3.3.1. Religious Education in Non-denominational Schools

According to the *Curriculum for Excellence*, religious education in the Scottish non-denominational sector is known religious and moral education (RME) (Curriculum for Excellence, 2015) and “it should enable children to explore the world's main religions and views independent of religious beliefs and to consider the challenges posed by these beliefs and views” (Education Scotland, 2015a, p.1). RME is a process whereby pupils “engage in a search for meaning, value and purpose in life” (ibid., p.2). They will learn about and from religion and the skill of reflection, critical thinking and understanding of the beliefs and values of others are all central in this process (ibid.).

3.3.2. Religious Education in Roman Catholic Schools

Roman Catholic schools in Scotland provide their own specific programmes of Religious Education. There is a distinctively different approach to RE compared with that of non-denominational schools, and the core of it is an understanding of Catholic Christianity (Riddell et al., 2009). The curriculum documents and the values and the ethos of the Catholic schools are rooted in the values of Catholic Christianity. In addition to the RE documents in *Curriculum for Excellence* for the Roman Catholic sector, the Scottish Catholic Education Service (SCES) has produced a document entitled, ‘*This is our Faith*’, which is a supplementary guidance on the teaching of RE in Catholic schools in Scotland (SCES, 2015). These documents are introduced in the next section.

Although in both RME in non-denominational schools and RE in Roman Catholic schools the emphasis is on the personal search and students learn about, and from, the values and beliefs of Christianity and world's religions, there is a significant difference

between them. In Catholic schools, through learning RE, children in their personal search “investigate the question about the *truth* and meaning of life” in the Catholic faith and they will deepen their knowledge of this faith (Education Scotland, 2015c, p.1). However, in non-denominational schools RME helps children to explore the responses which religious and non-religious views offer to “questions about the nature and meaning of life” (Education Scotland, 2015a, p.2). Thus RE in Roman Catholic schools is different from RME because of its focus on the faith development of students within the context of Catholic Christianity (SCES, 2015). The religious education documents in these two sectors are explored in Chapter 6 in order to discover the similarities and differences in integration of critical thinking in these documents.

3.4. National Curriculum Documents of Religious Education in Scotland

3.4.1. ‘Curriculum for Excellence’ Documents for Religious Education

Curriculum for excellence is the current curriculum in Scotland which “provides a coherent, more flexible and enriched curriculum from 3 to 18” (Education Scotland, 2015). The *Curriculum for Excellence* includes non-denominational religious and moral education (RME) and Roman Catholic religious education (RERC) as separate curriculum areas. The guidance provided by *Curriculum for Excellence* for RE in both sectors comprises two main documents; “*Principles and Practice*” and “*Experiences and Outcomes*”.

3.4.2. ‘This is Our Faith’ Document

As stated in “*Principles and Practice*” of RERC in *Curriculum for Excellence*, full understanding of these principles and their practice can only be achieved by reading them in conjunction with the Supplementary Guidance *This is our Faith* (Education Scotland, 2015c). *This is our Faith*, which is claimed to be the first religious education syllabus created in Scotland for teaching religious education in Scottish Catholic schools, was published by the Scottish Catholic Education Service (SCES) on behalf of the Catholic Bishops of Scotland (SCES, 2015).

This document is designed for pupils at the general educational phase (P1 to S3) and at the senior phase (S4 to S6). It intends to inform teachers’ understanding of the nature of the Catholic school, the purpose of religious education, the role of the teacher, the

‘Strands of Faith’ and the ‘core learning’ in faith which young people are expected to experience (SCES, 2015).

A draft of *Experiences and Outcomes* part of *This is our Faith* which was dedicated to Catholic religious education in primary and secondary schools was released in May 2008. It was approved by the Church and published in November 2011 as a new syllabus for RE in Roman Catholic schools and its senior phase version was also published in October 2015.

3.5. Different Approaches to Religious Education

In this section of the chapter the main theoretical approaches to religious education are first critically reviewed and finally the position of critical thinking in each of them is explored and compared.

3.5.1. Confessional Religious Education

From the nineteenth century to the late 1960s British society was considered to be monolithically Christian (Barnes, 2000; Nixon, 2009) and confessional education was dominant and, accordingly, students faced a specific worldview that was based on Christianity.

Wright (2007) claims that the aim of religious education, in this context, is intellectual indoctrination and it is designed to fix children’s roots in the Christian faith and give them direction in life according to this worldview. Consequently, religion was introduced as the only truth and schools had a crucial role in promotion of the Christian faith (Barnes, 2000).

According to Wright (2007), in this approach, learning about Christianity corresponds directly to what it claims to be (learning from it). Thus there is little tension between ‘learning about’ and ‘learning from’ religion, which for him means there is little tension between the pursuit of truth and the nurturing of truthful Christian lives (Wright, 2007).

There were several criticisms of this approach by different scholars, such as Lukes who conducted research and reported a high level of negativity towards this approach (Lukes, 2003, cited in Jackson, 2007). The result showed that in this context teachers marginalize

their own experiences and ideas, they interpret lessons as Christian indoctrination (ibid.); moreover, they did not have the insight to address the nature of religious truth openly in the classroom; instead they persuaded pupils the truth of Christianity by offering pre-packaged Christian solutions to their moral and existential dilemmas (Wright, 2007).

3.5.2. Liberal Religious Education (Non-Confessional Approaches)

The debates regarding religious education have developed since the late 1960s in Britain (Barnes, 2006). The UK began to recognise that social and cultural changes meant that society was developing from a (perceived) mono-religious society to a pluralistic and secular one.

In this context “it was no longer possible to simply assume the truth and authority of the Christian worldview” (Wright, 2007, p.83); thus, there was a move from a confessional to a liberal and multi-faith model of religious education. This movement toward a non-confessional approach to RE was initiated in England and Wales in 1970 (Durham Report, 1970) and in Scotland in 1972, alongside a more child-centred approach (Scottish Education Department, 1972). Harold Louke was the first person who identified the gap between Christianity as the truth which was being taught in RE and the life/world experiences students brought with them to the classroom (Wright, 2007). However, he did not redefine the content and aims of RE, he only recommended a problem-centred syllabus and new teaching methods to make links between the truth claims of Christianity and the personal and social dilemmas that children face in their daily lives (ibid.).

3.5.3. Catholic Religious Education

As mentioned in section 3.3.2 Catholic religious education is the common approach to RE in Roman Catholic schools. On October 1965 the Second Vatican Council circulated the Declaration on Christian Education which explains the distinctive characteristics of the Catholic schools. Later, the Congregation for Catholic education acknowledged that what makes the Catholic school distinctive is its religious dimension which is found in the educational climate, the personal development of pupil, the relationship between culture and the Gospel, and the light of all knowledge with the light of faith (Congregation for Catholic Education, 1988).

In order to implement the Council's declaration, the Congregation for Catholic Education has attempted to make Catholic schools more effective in meeting the expectations of the Church (ibid.). In order to guarantee that the Catholic education presented to pupils is authentic, the Church establishes the content of Catholic religious education in schools (Congregation for Catholic Education, 2009).

Religious Education is an integral part of the curriculum of the Catholic school and is at the heart of Catholic education (Religious Education Curriculum Directory, 2012). Catholic religious education “takes place within the context of the wider Catholic faith community” (Education Scotland, 2015c, p.1) and gives the pupils knowledge about Christian identity and Christian life (Congregation for Catholic Education, 2009). The central purpose of Catholic RE is to assist pupils to make an informed and mature response to God in faith (SCES, 2015; Education Scotland, 2015c). Religious education in Catholic schools supports all pupils in their personal search for truth and meaning in life and it can be seen as “a journey of faith, a quest for personal growth and response within the community of faith” (Education Scotland, 2015c, p.1). Therefore learners know and understand God’s revelation fulfilled in the person of Jesus Christ through the scriptures and traditions of the Church in religious education within the Catholic schools (Religious Education Curriculum Directory, 2012). The invitation of Jesus Christ for all people to live life in all its fullness is in Catholic RE and it assists learners to reflect upon the impact of the message of Catholic Christian faith on their understanding of life. Religious Education in the Catholic school attempts to “promote the relevance of the Catholic faith to everyday human life and experience” (SCES, 2015). Growth in faith and knowledge helps the pupils to respond individually to this invitation and understand the fullness of what it is to be human. Therefore “the promotion of the human person is the goal of the Catholic school” (Religious Education Curriculum Directory, 2012, p.3). Hence Catholic religious education offers opportunities for both evangelisation and catechesis. Evangelisation means “proclaiming the Gospel message to all” and catechesis is “inviting the individual to respond to the message of Christ and deepening of existing faith commitments among believers” (Religious Education Curriculum Directory, 2012, p.3; Education Scotland, 2015c, p.1).

In Scottish Catholic schools, the Catholic Education Commission is responsible for the faith content of the curriculum on behalf of the Bishops’ Conference of Scotland. In addition the Scottish Government is working with the Catholic Education Commission in

the development of guidance for those schools in keeping with the values, purposes and principles of Curriculum for Excellence (Education Scotland, 2015c). Davis and Coll reported in 2007 that the working relationship between the Church and the state regarding Catholic education in Scotland had strengthened in the previous twenty years. This appears to continue. The operational agency of Catholic Education Commission is the Scottish Catholic Education Service (SCES) which “works to offer support and guidance to schools and Catholic teachers in Scotland and develop and implement plans for the development of Catholic education” (Coll in Buchanan and Gellert, 2015, p.182). *This is our Faith* builds on the agreed *Curriculum for Excellence* outcomes and experiences for RE in Catholic schools by providing guidance for teaching and indicating the core content to be covered (SCES, 2015). This document attempts to balance the centrality of the learner as a key implementation of the syllabus in Catholic schools, with core and theologically accurate content provided to ensure that pupils are being successfully catechised (Coll in Buchanan and Gellert, 2015). According to *This is our Faith* the core learning of Catholic RE is built upon the four pillars of the Catechism of the Catholic Church which are “faith professed, faith celebrated, faith lived and faith prayed” (SCES, 2015). Additionally, eight ‘strands of faith’, “Mystery of God, In the Image of God, Revealed Truth of God, Son of God, Signs of God, Word of God, Hours of God and Reign of God” (Education Scotland, 2015c, p.5; SCES, 2015), are presented to schools and provide accurate Catholic doctrine at the heart of pupils’ learning.

The Catholic school welcomes all children and teachers are expected to model respect and appreciation of those of other Christian denominations, other faiths and other stances for living. Nevertheless, the Catholic teachers “should be aware of their vocation to promote the distinctive beliefs, values and practices of the Catholic community” (*This is our Faith*, 2011, p.9). The anthropological approach adopted in Catholic schools ensures that other world religions are treated with respect and teachers should “recognise the Church’s positive regard for other faith traditions” (ibid., p.17).

The Catholic religious education offered in *This is our Faith*, if used correctly, claims to present core content but also provides the skills which are necessary to facilitate critical engagement with what is being learned (Coll in Buchanan and Gellert, 2015).

3.5.4. Phenomenological (or Descriptive) Approach

The confessional or dogmatic approach of RE was criticised by many scholars. Ninian Smart advocated ‘phenomenological’ or ‘undogmatic’ approach to religious education. This descriptive and objective approach to RE ignores religious truth claims and instead treats religion as a phenomenon or a fact (Barnes, 2000). In phenomenological RE, no religion is preferred over another; thus, it claims to be multi-faith and neutral (Barnes, 2006). According to Smart, there are two methodological principles in this approach; suspension of judgement, which means temporarily ignoring one’s own beliefs and values, and structured empathy, to grasp the essence of religious phenomena and to consider whether the beliefs of others have similarities or differences with one’s own (Jackson, 2007). “By suspending judgement and bracketing out one’s own beliefs, one is enabled to enter into the experience of others, and in this way to gain a sympathetic understanding of their inner life” (Schools Council, 1971, p.23). Therefore, this approach to RE teaching, unlike the confessional approach, claims that it does not seek to promote any special religious viewpoint but it helps pupils gain an empathetic experience of a range of different religious traditions (Wright, 2007).

In Smart’s view, religious beliefs can be considered from two different perspectives; from a historical or descriptive point of view which deals with the facts of religion, and from a para-historical point of view which considers the reasons for the truth or values of religion (Smart, 1968). Although Smart initially emphasised that descriptive studies of religion must be supplemented by para-historical studies to provide opportunities for students to make reasoned judgement about religion, it did not happen in practice. Accordingly, the para-historical view of religion with its focus on the reasons behind religious truth claims was ignored and this was one of the main criticisms of phenomenological approach (Barnes, 2000).

There were other criticisms of the phenomenological approach to RE, which related to “educational neutrality, religious tolerance and personal autonomy” based on the liberal education (ibid., p.325). Barnes emphasises a weakness of this kind of RE; he argues that putting aside one’s own beliefs and entering imaginatively into other’s beliefs and values in order to obtain religious understanding, is not psychologically possible for students in primary level, as “they are incapable of adopting a viewpoint contrary to their own” (Barnes, 2006, p.400). Furthermore, because the experience of pupils’ own religion is ignored in this approach, they just learn *about* religion and do not learn *from* it (Barnes

and Kay, 2000). It seems that the most significant problem with this approach, from Barnes' view, is that the phenomenological approach to religious education is not compatible with a critical education in a plural society (Barnes and Kay, 2000); it is freed from challenge and there is a lack of critical evaluation of religious beliefs and practices (Barnes, 2006). However, he believes students in school should have opportunities to discuss the truth of religion and to develop the necessary skills to evaluate religious beliefs and practices (Barnes, 2000).

3.5.5. Critical Religious Education

Wright (2009) claims that in the liberal and plural context, in which there are no mutual understandings of the nature of religion, different contrary interpretations of religion make the search for an acceptable framework of religious education problematic. Wright suggests a new approach to RE, namely critical religious education which “seeks to enable pupils to enter into a rational critique of religion” (Wright, 2003, p.280). This model “provides the basis for a critical approach to RE organized around the principles of intellectual integrity, personal freedom, the pursuit of ultimate truth, and personal faith-formation” (Wright, 2008, p.518). For Wright, the issues of neutrality, tolerance and respect emphasised in liberal RE should not prevent debates over issues of religious truth (Jackson, 2007). RE should make the questions of faith, values and truths visible for pupils, so that they can make judgements based on knowledge and participate in debates on these questions (Wright, 2004).

This approach describes two main attainments for pupils which are to be aimed for:

- ‘Learning about’ religion, which requires “their investigation of the nature of religion, to focus on beliefs, practices, ways of life and forms of religious expression that will guide them to ultimate questions of meaning and truth that require interpreting, analysing, and explaining” (Wright, 2008, p.519).
- ‘Learning from’ religion which expects them “to reflect on, and respond appropriately to their own experiences in the light of their exploration of religion, to ask questions about personal identity, values, the meaning and purpose of life, and ultimate truth that requires interpreting, evaluating and communicating their responses to such questions” (ibid., p.519).

Wright believes that these twin tasks (learning about and learning from religion or understanding religion and personal development) cannot be separated and “they are different sides of the same coin” (Wright, 2008, p.520). The contrast between these two appears as a problem when the students attempt to learn about religion(s) which is different from the religion they experience in their lives.

Thus from Wright’s view, a Catholic Christian student in a Catholic school learns about Christianity, simultaneously learning from and about Christianity, within a context where the learners share a common worldview (Hella and Wright, 2009). However, in religious education in non-denominational schools there is a tension between learning about and learning from religion. Because of the plurality of worldviews taught there is no common consensus between the worldview of students and the curriculum (ibid.).

In order to resolve this tension, Wright introduces the idea of “critical religious education”, which is based on critical realism. This approach enables students in a plural society to look at different beliefs and traditions in a critical way and also to bring their own understanding of a religion into the dialogue (Hella and Wright, 2009). This critical perspective in RE cultivates a deep understanding of various religious and secular traditions (learning about religion) and empowers students to make informed judgements about the beliefs they choose (learning from religion).

Wright believed that there will be more tension in non-denominational schools than in denominational schools which follow a particular worldview. However, I would argue because pupils in denominational schools live beside other people with different religious or secular beliefs in a plural society, this provides other resources for them to learn from, and so they also may face the tension between their knowledge and experience. Thus, in my view, teaching Christianity at school in a critical process could provide an opportunity for learners to search, investigate, compare and choose their religion freely. If this is the case then a critical approach to RE, as advocated by Wright, can be adopted in both kinds of schools.

3.5.6. Interpretive Approach

Robert Jackson not only stated the weaknesses of the phenomenological approach, but also considered the critical religious education approach incomplete and inadequate. For

instance, he criticises the stress on the external and observable objects of religious behaviour in the phenomenological model and a lack of concern for students' experience and the issue of truth in it (Jackson, 1997). Moreover, he makes some criticisms of Wright's idea about critical religious education, including: developing an academic approach, which seems difficult to apply in the classroom, especially in primary level; his lack of attention to emotional elements in religion and his attack on liberalism in RE, based on his assumption of the lack of a critical element and pursuit of truth (Jackson, 2004).

Thus, Jackson developed another model of religious education, which was a hermeneutical one, which he called the interpretive approach to RE and which is influenced by findings from social anthropological studies of religions (Jackson, 2004, 2007). The aim of this approach is to help students to gain a "critical and reflective understanding of religions" (Jackson, 2009, p.399) and "find their own positions within the key debates about religious plurality" (Jackson, 2004, p.87). Jackson tries to reunify culture and religion (1997) and gives less emphasis to comparing, contrasting or evaluating religions (Carmody, 2010). For him, historical and doctrinal aspects of religion can lose their significance in the interpretive approach (Jackson, 2004). In this approach, unlike the phenomenological one, the pupils' own viewpoint is a crucial part of the learning process, thus they should not put aside their own beliefs, but should compare their own concepts with those of others (Jackson, 2007). Thus it requires "a backwards and forwards movement between the learner's and the other's concepts and experiences" (Jackson, 2009, p.402). One of the key principles in the interpretive approach is reflexivity, which means here "the relationship between the experience of students and the experience of those whose way of life they are attempting to interpret" (ibid.) and it has three aspects in religious education:

- (i) Edification: encouraging students to review their own ways of life,
- (ii) Constructive criticism: engaging critically with the materials they study, and
- (iii) Involving pupils in the development of the interpretive process and reflecting on their learning (Jackson, 2009).

The strength of this approach is found in several empirical studies through ethnographic research (Jackson & Nesbitt, 1993) and also action research (Jackson, 2004, 2003) with students at different levels.

3.5.7. Narrative Approach

This is an approach suggested and advocated by Carr as a crucial one in liberal education to demonstrate the rationality of religious claims, beliefs and narratives based on a different epistemology and logic of religious knowledge and “the ultimate rehabilitation of the idea of religious truth as a significant goal of religious education” (Carr, 1994, p.223). He criticises both confessional and non-confessional approaches to RE for their inadequacies and claims that his approach not only fixes their challenges, but is “indispensable” to liberal religious education and as a result “should” be promoted in schools (Carr, 2007).

For him the confessional approach to RE could involve the risk of religious dogmatism and indoctrination. It could also be “theologically exclusive” and ignore the educational contribution of religious narratives provided when “critical, comparative and interpretatively creative approaches” are employed. He argues that in extreme cases, it even may misinterpret religious narratives as all ‘literally’ true, because of a misconception of “logical grammar” in religious claims (Carr, 2007).

On the other hand, although non-confessional approaches may appear broadly acceptable at first glance, they reduce the great moral significance of religious narratives for educational purposes to just descriptive understanding of various cultures and practices or at most promotion of very primitive and general spiritual and moral principles. In his view, the risk of this approach is its superficial treatment of various religious narratives which ignores (if not distorts) intellectual and spiritual distinctions and contributions which could be involved in teaching of different religions. Indeed, the mistake of non-confessional approaches is that they move from an epistemological and intellectual level to a “less substantial or controversial liberal-democratic” social and cultural level, albeit in response to the narrow, closed and one-sided confessional approach (Carr, 2007).

Having discussed both approaches, Carr (1994) suggests his narrative approach, based on a more complex conception of religious truth or knowledge, in which employment of analogy and metaphor is necessary for two reasons.

First, the nature of human understanding in general is not just a mechanical cognitive information-processing endeavour, but has a motivational affective aspect. What brings these cognitive and motivational aspects together is human imagination, in which

construction of analogy and metaphor contributes to the process of understanding and explanation in the human search for truth (Carr, 1994). This is why this non-literal metaphorical language is observable even in scientific discourse, such as that of physics and biology. Secondly, what is more specific to the territory of religion is that the central concern of religious understanding and explanation is spiritual, non-observable aspects of human experience, in contrast to material, observable dimensions. For this matter, there is no other way, but to employ “figurative or allegorical” language to explain those aspects of religious truth claims which are of spiritual significance using analogies and metaphors of what is more observable and familiar to people (ibid.).

In this respect, he compares religious knowledge with ‘myth’, where its educational value does not depend on accepting that the myths are literally true. They even may be accounted as “literally untrue, but otherwise meaningful or true” (Carr, 2004, p.41). To implement this approach in school curricula, he advocates a more holistic and coherent pedagogy where there are meaningful relationships between religion and other subjects in the arts, humanities and sciences and suggests taking into account three points:

- (i) Isolated provision of RE as a separate and disconnected subject could obscure or damage understanding of the relationships between religious studies and other subject areas;
- (ii) As a result, it is suggested that teachers of religious studies try to develop integrated and interdisciplinary curriculums in collaboration with teachers of other subjects considering meaningful links among different subjects and RE;
- (iii) In order to develop these interdisciplinary approaches, more clear emphasis should be made in teacher training programmes for more explicit inter-subject relationships in particular topics (Carr, 2007).

3.6. Critical Thinking and Approaches to Religious Education

Some of the main approaches to RE have been reviewed and their characteristics described. Regarding the research questions, which focus on the incorporation of critical thinking in RE curriculum documents and teachers’ perspectives on critical thinking, it is important to understand the position of critical thinking in different RE approaches. It enables us to understand the degree to which and the ways in which each approach to RE may obscure, stimulate or shape integration of critical thinking in RE curriculum.

It is important to note that, in practice, it may be very difficult to assign a specific approach to a particular school or education system, because the RE curriculum, like any other curriculum, is designed and developed in response to the social, historical and political environment. These changing environmental conditions may require combinations of different approaches with different elements of each approach or even other new approaches which may emerge. Moreover, in the same social and political conditions, different schools may choose specific combinations based on their philosophy and view of religious, moral and spiritual education.

Clearly, the change towards liberal approaches indicates how the emergence of plural and multicultural society calls for a new approach to RE to meet the new requirements of a changing society. The suggestions for different approaches to RE by different scholars and researchers highlights the different ways in which they frame and formulate problems and challenges and develop new methodologies which allow appropriate responses. While it is possible to understand and compare these approaches from several dimensions, this study is limited to the analysis of the position of critical thinking in each approach, which may be articulated explicitly or not.

As is evident from above explanations, confessional and phenomenological approaches could both basically be classified as un-critical approaches, because of their perceived inadequate attention to critical and reflective engagement of pupils with the topic. However, the reasons for the uncritical approach are different. Confessional approaches are not critical because they have commitments to a particular world view and introduce it as truth. There might be some scope for critical perspectives '*within*' the particular worldview they advocate, because of internal diversity which may exist, but critical perspectives '*between*' worldviews are extremely limited to defensive strategies, when they may be threatened or attacked by other alternatives (Weinstein, 1996). While concern and motivation for the pursuit of truth usually exists, the scope of the answer is limited and determined.

In contrast, the phenomenological approach in its pure sense insists on the introduction of different belief systems '*across*' religions as social and cultural phenomenon. Their main concern is cultural rather than epistemological. The main aim is to promote tolerance in a multi-cultural and plural society through a kind of pure descriptive method to introduce different cultures, communities and their value systems. The cost of this concern,

according to the critics, has been lack of critical engagement by pupils with different truth claims, and they may not have scope to reflect and modify their beliefs. In this sense one might argue that confessional approaches could be accounted as more critical, because they promote the question of truth although they limit the range of answers. Phenomenological approaches, however, tend to ignore this engagement with truth claims.

The other approaches (Critical religious education, Interpretative approach, and Narrative approaches) all recognize the challenges involved in non-critical approaches. As a result, they have a clear ‘critical element’ in their suggested programmes for RE, although they differ in their approach to religious knowledge and how it could (or should) be understood in a critical way.

Critical religious education emphasises that the pursuit of truth should remain the central concern of religious education. Within this condition, critical and reflective engagement of students with their own religious understanding and other choices (including religious, secular and post-modern relative perspectives) pave the way for a good religious literacy and enable students to make informed judgments. This approach is mainly hermeneutic, where religious texts and narratives are an important source of religious knowledge and understanding; as a result, literate students could be able to implement critical skills and make critical decisions about their personal belief, world view and life style. It is also inclusive because it embraces plurality and opens an informed conservation environment for all competing perspectives and truth claims (Jackson, 2004).

The interpretive approach recognizes these advantages in critical religious education, but also identifies a number of weaknesses which it tries to address. Among them, a standard view of different religions and narratives, ignoring emotional and affective dimensions, and workability in the classroom are important. Application of the social anthropology of RE, in addition to philosophical and theoretical theories, highlights the internal diversity of religious traditions, and their combinations with cultural as well as specific personal factors. Building on these findings, scholars within the interpretative tradition emphasise that a fuller representation of religions and better understanding of their truth claims requires a good sense of their cultural context and a kind of “sympathetic understanding” (Jackson, 2004, p.84), in addition to literacy in religious narratives and texts. Moreover, expression of emotional and spiritual experiences, which is discouraged in critical

religious education, to prevent bias in knowledge, is claimed as a necessity in interpretive approach. In fact, it appears that adherents of the interpretive approach believe critical engagement with and understanding of own and others' beliefs is very limited without these emotional personal experiences. This is why they argue that Critical RE is strongly rationalized and heavily academic and is not adequate for school classrooms, particularly in primary schools (Jackson, 2004, p.86). Within the framework of critical thinking, thinking motivations and dispositions are also important in this framework, in contrast with other approaches.

David Carr's narrative approach turns attention back to religious narratives and their central importance in religious education. He suggests a fresh epistemological rationale for religious education in response to liberal secular attacks on religious education which argue that any kind of religious education involves some kind of indoctrination because religious truth claims and beliefs are essentially "non-rational if not irrational" (Carr, 2004, p.38). He employs the analogy with non-literal meaningful truth claims in myths and fictions, which involve moral and spiritual reasons to reject this argument and indicate that objective truth and meaning could exist in religious narratives. He essentially advocates a critical and interpretive approach to religious narratives, but he argues that many controversies between religious truth claims and other truth claims are removed if this non-literal approach is employed.

These three last approaches are mainly developed within academia and research communities in response to the challenges that both confessional and phenomenological approaches have been facing. Although they recognise different problems and challenges, they all recognize the lack of a critical element in previous approaches and they all also suggest the inclusion of critical thinking in their approaches. However, they differ in the ways in which it could be included in RE, based on their view on the nature of religious knowledge and how it could be understood.

3.7. Conclusion

This chapter has briefly explored the history of faith schools and non-denominational schools in Scotland and examined the contemporary status of religious education in both the non-denominational and Roman Catholic sectors. In reviewed different theoretical approaches to religious education, I have pointed out the relation which is likely to exist

between each of them and critical thinking. In addition, one purpose of this study is analysing RE curriculum documents in two different sectors, non-denominational and Roman Catholic, in order to discover the integration of critical thinking within them. I will analyse these documents according to the framework of critical thinking designed in Chapter 5 of this study, to find out how critical thinking and its elements are incorporated in these documents. The process of the analysis of the RE documents is reported in Chapter 6 and its findings are discussed in detail in Chapter 8.

Chapter 4: Methodology

4.1. Introduction

In this chapter I give an account of the research design chosen to answer the research questions. In the next section I introduce the comparative qualitative approach as a suitable research design for this study, followed in section 4.3 by an explanation of the main stages of the research, which include the pilot phase. In section 4.4 I present the data sources in this study and how they were selected, justifying the use of curriculum documents and interviews. Sections 4.5 and 4.6 explain how these two main types of data were collected and analysed. Section 4.7 discusses issues of trustworthiness (validity and reliability) in the context of this qualitative research. I address reflexivity issues in section 4.8 where I clarify my position as the researcher within the research process, while the final section addresses the challenges I faced during the research and considers the ethical issues consideration.

4.2. Overall Research Design

As I described in the first chapter, the purpose of this study is to investigate how critical thinking is conceptualized in religious education, focusing on the curriculum documents of religious education and RE teachers' accounts, in both non-denominational and Roman Catholic secondary schools in Scotland. Accordingly, the research questions were:

1. What is an appropriate framework for the analysis of critical thinking in religious education?
2. What types of critical thinking are evident in relevant national curriculum documents of religious education?
3. How do RE teachers of S3 in non-denominational and Roman Catholic secondary schools understand critical thinking?
4. What are the similarities and differences in teachers' understanding of critical thinking in the two types of schools?

5. What is the role of RE curriculum documents in shaping teachers' understanding of critical thinking in religious education?

I used a comparative qualitative approach as the research design of this study to answer the research questions raised above. Such a design fits well with the requirements of this research, where the major aim is in-depth analysis of curriculum documents and teachers' perspectives. I elaborate on the advantages of the qualitative approach regarding the purpose of this study and also explain the 'comparative' element in this study.

According to Patton (2014), qualitative methods are appropriate when the aim is to study issues in depth and detail. This is because the qualitative researcher is usually not constrained by predefined analytical categories, thus allowing deeper and more detailed investigation. This creates an open environment for the researcher to understand various aspects of the phenomena under study. In addition, qualitative research provides several types of contribution to knowledge generation, among which 'illumination of meaning' is of critical importance (Patton, 2014). This feature is highly relevant to the purpose of this study, where the main aim is to understand the meaning of critical thinking in the context of religious education. Qualitative research uses different data sources such as interviews and documents to understand the meanings people make and attribute to their life experiences. In other words, qualitative inquiry is concerned with how people and different groups make sense of the world and construct different meanings.

The term 'comparative' points to the fact that the purpose of this study is to make sense of the meaning of critical thinking in the subject of religious education, comparing two different settings: non-denominational and Roman Catholic secondary schools. While it is of central concern to understand how critical thinking is understood, I also aim to explore whether these two different sectors play a role in shaping the meaning of critical thinking in these two environments. Therefore, comparative qualitative research design has been selected to shed light on both similarities and differences in the way critical thinking is conceived and understood.

However, there is a fundamental difference between the comparative approach here and 'the comparative method' often used as a social science method in its narrow sense. 'The comparative method' is a particular kind of comparison in the social science which refers

to the comparison of ‘large macrosocial units’ in order to draw causal explanations (Ragin, 2014). Cross-country comparison is a popular type of study, where education, political or social systems are analysed in a specific way to explain different outcomes. My aim in this research is not ‘explaining’ casual relationships, but to extend our ‘understanding’ of the way critical thinking is conceived and conceptualized. As a result, the very aim of comparison in this research is different from what is often employed in comparative social science method. According to Blaikie (2009), the logic of inquiry, in this type of study, called an ‘Abductive’ research strategy, the initial role of the research is to understand how people conceptualize the world in which they live.

This study is informed by an ‘interpretive research paradigm’, in which people make sense of their subjective reality (Bryman, 2001). It is often understood better when compared with positivism, the main alternative paradigm in the philosophy of science. Positivism postulates that reality exists independent of us as humans, and can be objectively explained. On the other hand, the interpretive paradigm is mostly concerned with social reality as constructed and conceptualized by the human being. As a result, knowledge is not seen as something objective and value-free, but inherently interwoven with people’s values and subjective ideas.

Qualitative studies typically involve small samples, which allows for deep analysis. Samples can be drawn from individuals, groups of people, organizations, sectors or even cultures. The logic of selection, however, is not statistical sampling for generalization of a population. The logic of purposeful sampling applies in qualitative research, where researchers look for something “information-rich and illuminative, that is, they offer useful manifestations of the phenomenon of interest; sampling, then, is aimed at insight about the phenomenon” (Patton, 2014, p.46). The capacity for learning about the phenomenon of interest is highly emphasised. I think religious education in Scotland is an information-rich case which could shed a new light on the integration of critical thinking in educational curricula. Although this issue has been studied in the context of other subject areas, such as math, science, social studies, it has not been researched in the context of Religious Education.

Given the nature of religious education, it could offer a paradoxical environment for development of critical thinking. On the one hand many fundamental and thought provoking issues are addressed in religious education which could potentially stimulate

critical thinking. On the other hand, there are some approaches, such as the confessional view in religious education, that may not be easily combined with critical thinking. This paradoxical situation offers a unique and illuminating instance for integration of critical thinking in educational curricula. In addition, the availability of two different settings of non-denominational and Roman Catholic school also provides more scope to understand the perception of critical thinking in different contexts.

Given the central role of teachers as the agents of change in the new curriculum in Scotland, *Curriculum for Excellence*, (SEED, 2006) their perception of any approach including the concept of critical thinking is instrumental in their practice in the classroom. How the teachers understand the concept of critical thinking and its relationship with religious education shapes the way they will develop classroom curriculum and the position of critical thinking in it. As a result, an area of interest for this study is teachers' accounts of critical thinking in the two types of schools mentioned above.

The interviews with teachers generated the data I used to answer research questions 3, 4 and 5. "The major way in which qualitative researchers seek to understand the perceptions, feelings, experiences, and knowledge of people is through in-depth, intensive interviewing" (Patton, 2014, p.27). Interview data reveals teachers' depth of thought, perceptions, emotions and the ways they organize their subjective world. "The task for the qualitative researcher is to provide a framework within which people can respond in a way that represents accurately and thoroughly their points of view about the world, or that part of the world about which they are talking" (ibid., p.27). As a result, I needed a reliable conceptual framework to capture teachers' accounts of critical thinking and compare the various perspectives they may have about it. This is why I formulated my first research question regarding the appropriate framework for the analysis of critical thinking. This framework provides the relevant sensitizing concept which organizes the data collection process through interviews (Patton, 2014).

According to Bloomberg and Volpe (2008), a well-designed conceptual framework provides "categories" and "descriptors" which play the role of "scaffolding" for the research. Not only does it help in the development of the research design, it also facilitates the choice of data collection methods. In addition, it offers a structure to organize the research findings, while informing the coding scheme of the research.

National curricula are often one of the major sources shaping teachers' perceptions and practices. By definition, they provide a set of principles and objectives to define the salient points that should be addressed by teachers in the classroom. In addition, my pilot interviews, explained in section 4.3, showed that national curriculum documents were important sources which are often cited by teachers as a reference point to inform decisions about whether to include or exclude something in the content of their classroom curriculum, and even shaped their practice in class. As a result, I have included the analysis of the most recent national curricula of religious education (section 4.4), as an important part of the study. The aim was to understand how critical thinking is conceptualised in these documents and to what extent they are central in shaping teachers' accounts of critical thinking. The analysis of these documents also required the same conceptual framework of critical thinking. Not only has applying the same framework provided similar sensitizing concepts to guide the analysis of the documents, it also allowed me to compare the teachers' account of critical thinking with the way in which it is conceptualised in the documents. "Sensitizing concept sampling involves finding information-rich cases that can illuminate the use and meaning of particular concepts within particular settings" (Patton, 2014, p.292). In the next section I elaborate further on the main steps of the study.

4.3. Main Steps of the Study

The research comprised one pilot component and the three main inter-related components to answer the 5 research questions:

Study 1: Development of the framework of critical thinking (Chapter 5)

Study 2: Analysis of RE curriculum documents of non-denominational and Roman Catholic sectors (Chapter 6)

Study 3: Interviews with RE teachers in 8 schools (Chapter 7)

The aims of the pilot study were to develop my understanding of the field, as I was unfamiliar with the Scottish education context, to decide on the relevant school stage in which to conduct empirical study, and to fine tune the interview questions. Further explanation of the pilot study is provided in section 4.3.1.

The first step was to identify a framework of critical thinking which would be capable of identifying aspects of critical thinking, both in curriculum documents and teachers' understandings of the concept. For reasons presented in Chapter 5, it very quickly became clear that no existing frameworks were suitable for this task. Therefore, the first step in the research was to develop a new framework of critical thinking, which was then used in the subsequent stages of the analysis of both types of data collected. First, the framework was used to analyse the curriculum documents relating to RE in order to elicit how critical thinking in those documents was expressed.

The same framework was then used to analyse the interviews with RE teachers. The purpose of the interviews with teachers was to explore their understanding of critical thinking, and their views of how critical thinking was expressed in curriculum documents relevant to their sector. I also wanted to discern any similarities and differences between teachers' understanding of critical thinking in each type of school. According to the findings of the analysis of the documents and of the teachers' views, I refined and improved the framework of critical thinking that was developed in Chapter 5. The aim was to produce an operational framework of critical thinking which could be applied to curriculum documents.

At the outset of the study I had intended to carry out an analysis of curriculum resources used in religious education in both types of the schools. However, following the pilot phase (discussed below), it became clear that analysis of resources would not generate useful data for the purpose in hand. A planned research question relating to resources was dropped from the study at this stage. From the pilot interviews and preliminary analysis of the resources, I understood that teachers' account of critical thinking was much more informative, as they can use the resources in many different ways. In other words, I found it much more important to understand the teachers' own views on critical thinking, which shape how they choose and use RE resources. For example, a very simple resource could be used in a very critical way. As a result, an important alteration was made in the middle of the study.

4.3.1. Pilot Study

Initially I decided to find out more about religious education in the different stages of schooling. In this way I was able to identify the appropriate stage to carry out my study,

that is, one in which critical thinking was likely to be developed in pupils through the RE curriculum. In addition, it gave me an opportunity to become more familiar with the two different sectors in Scottish Education.

Thus I went to one non-denominational primary school and one Roman Catholic primary school and spoke to their head teachers and some other teachers. I discovered RE in non-denominational primary schools aims to introduce different religions and the main and well-known rituals of religions, mostly in the form of story and art. Moreover, there are fewer specially written RE resources or syllabuses in those schools. The bases of teaching and learning RE in non-denominational primary schools are the “*Principles and Practice*” and “*Experiences and Outcomes*” documents for RME that are part of “Curriculum for Excellence”.

Investigation into Catholic primary schools revealed that they have used the same resources, called ‘*Alive-O*’, full of stories and songs based on Catholicism, for almost 20 years. However, according to the new *Curriculum for Excellence* and ‘*This is our faith*’ (written for Catholic schools), the teachers no longer have to use those resources. Rather, the teachers attempt to cover the syllabus with whatever they find useful, whilst waiting for the *Alive-O* materials to be updated.

Consequently, I found the primary level not suitable for my purpose and so I set out to discover what happens in secondary schools. I visited two schools, one non-denominational and one Roman Catholic, and reviewed all the resources used to support teaching in different levels from S1 to S6.

Several important points were identified during this stage of the pilot study:

- (i) Both schools had their own RE resources; these could be different from those in other schools in the same sector. The resources had been selected by the RE teachers in those schools.
- (ii) These resources are not only commercial books; they consist of textbooks, booklets (written by teachers for particular occasions such as Christmas and Easter,) notes, websites, educational films and so on.
- (iii) RE in S5 and S6 is taught mainly according to the exams, and the resources used in different schools are mostly the same exam based texts.

(iv) At the time of the empirical part of this thesis, the national curriculum documents of RE in both sectors had been written for P1 up to S3, but the documents related to the senior phase, S4 to S6, had not yet been published.

Having reviewed all the stages in secondary schools, I found that most RE resources used in S5 and S6 were based on working towards exams and, accordingly, the RE curriculum would likely be the same across schools. Because of this, I anticipated that finding differences in the development of critical thinking through RE between different schools might be more difficult. Moreover, I took the view that S1 and S2, which are the lower stages in secondary, were perhaps less likely to consider critical thinking seriously, and, indeed, this was confirmed by some RE teachers during the interviews (described in Chapter 7). I therefore selected S3 stage as the focus for the curriculum documents. Nonetheless, most of the findings from the interviews are relevant beyond S3, as the interviews explored teachers' accounts of critical thinking more generally.

Having formulated the interview questions and prepared a draft of them, I also conducted a pilot interview with the RE principal teachers in each school. In fact, all data gathering processes should be piloted, to test how long their completion takes, check that all questions are clear and assist us in removing or revising any points which do not provide useful data (Bell, 2009). Several issues are important to address in the pilot phase (Kvale, 2007):

- The questions address the issues and topics which are relevant to the research questions,
- Questions are clear enough for respondents,
- The questions are relevant to their expertise and experiences,
- The sequence of questions is appropriate to facilitate the flow and interaction, and
- The timing is appropriate to respond the questions

This pilot study and the analysis of its results gave me a different perspective on the questions asked and helped me to adjust and formulate them better (Basit, 2010). In addition, asking the interviewees in the pilot study to comment on my performance as well as on the interview schedule (Robson, 2002) helped me to evaluate my work. According to the results of the pilot interviews I conducted, I did not change the

interview questions but I revised and changed the sequence of questions. Having conducted the pilot interviews, I analysed the data, based on the framework of critical thinking designed in Chapter 5. The framework proved satisfactory to capture the relevant aspects of critical thinking, and therefore was not modified after the pilot study. I continued to work with the same framework for the rest of study, although I was open to consider further modification, if required. Suggestions for the refinement of the framework are presented in Chapter 8, according to the important lessons drawn from the analysis of all the sample data. Because the pilot interviews generated rich data, and because of the challenges of recruiting more schools, and also because I did not substantially alter the interviews as a result of the pilot interviews, I added data from the pilot interviews to the main data-set.

4.4. Selection of Data Sources

4.4.1. Selection of the Schools

At the outset I hoped to select both non-denominational and Roman Catholic schools from within the same local authority. This choice was made to remove the effect of any policy or local practice differences between different authorities. This strategy was intended to allow exploration of similarities and differences of understandings of critical thinking across the sectors. I intended to choose Roman Catholic schools in one archdiocese, which mapped on to one local authority. However due to the small number of Roman Catholic secondary schools in the authority (only 3 schools), and not receiving positive answers from two of them, I had to approach Catholic schools in other local authority areas. As a result, schools from 3 different local authorities participated. Nonetheless my analysis of the interview data revealed no discernible patterns of difference within or between authorities.

Initially I emailed secondary schools outlining my proposed study (see Appendix B). I sent this email to all Roman Catholic schools and non-denominational secondary schools in one authority. The emails were initially sent to the general admin email address of those schools, with a request for it to be forwarded to the principal teachers of RE, as there was no direct information on their names and email addresses. I also sent a reminder email. However, I did not receive any response from the non-denominational schools. Moreover, the principal teachers of RE in two Catholic schools declined to participate, because they were too busy in their schools.

Therefore, the most challenging part was gaining access to different schools and particularly to the Catholic schools, as two out of three in one authority declined to participate. I then drew on the professional networks of one of my supervisors who assisted me in contacting RE teachers in schools directly. They kindly agreed to cooperate and participate in my research as interviewees. In this way I gained access to 3 Roman Catholic and 2 non-denominational schools. In order to find more non-denominational schools, I used the opportunity of attending the annual ‘Association for the Teaching of Religious Education in Scotland’ conference. During the conference I attempted to make contacts with RE teachers from non-denominational secondary schools in the target local authority, and 3 teachers from 3 different schools were eager to participate in my study. Thus the final selection of schools is shown in Table 1.

Table 1: The number of selected schools of different local authorities

Sectors	Local Authority 1	Local Authority 2	Local Authority 3
Roman Catholic	1	1	1
Non-denominational	4	1	---

4.4.2. Selection of Curriculum Documents

As explained in section 4.3, analysis of relevant national RE curriculum documents was one of the main components of the study. The most recent Scottish national curriculum document on education is “*Curriculum for Excellence*”, which covers ages 3 to 18 and applies to all mainstream Scottish schools. This general document also consists of detailed documents for all parts of curriculum areas, of which one is Religious and Moral Education (RME) in non-denominational schools and one is Religious Education in Roman Catholic schools (RERC).

In non-denominational schools, there are two key RME documents; “*Principles and Practice*” and “*Experiences and Outcomes*”. Roman Catholic schools in Scotland refer to the RERC document in *Curriculum for Excellence*, which is specifically for use in the Roman Catholic sector and which, like the documents for denominational schools, also includes a *Principles and Practice* and *Experiences and Outcomes* document. The Roman

Catholic sector also has a new syllabus, “*This is our Faith*”, which is a key curriculum document recently produced specifically for Catholic schools in Scotland. Further explanation on the history and development of these documents, *Curriculum for Excellence* and *This is our Faith*, is provided in Chapter 3.

4.4.3. Selection of RE Teachers as the Interviewees

In seven of the eight schools which responded positively to my request for interviews, I interviewed one RE teacher in each, and in one of the Roman Catholic schools I was able to interview two teachers, making a total of nine teacher interviews, five in the five non-denominational schools and four in three Roman Catholic schools. All the interviews took place in the schools at a convenient time for the teachers.

4.5. Data Collection Procedure

4.5.1. Interview

Interviews are one of the most powerful instruments for qualitative research, particularly when the aim of the study is to understand the meanings and perceptions of the people about a subject. According to Patton:

“We interview people to find out from them those things we cannot directly observe...we cannot observe how people have organized the world and the meanings they attach to what goes on in their world. We have to ask people questions about those things.” (1990, p.32)

In particular, the goal of interview within the interpretive paradigm is to “explore how people perceive a phenomenon and understand the meaning they attribute to it” (Rubin and Rubin, 1995, p.27).

Given that one of the main objectives of this study was illumination of teachers’ understandings of critical thinking in religious education, I chose in-depth interview as one of the main data collection methods. As a result, it is important to address the nature of the interview, the appropriate type of interview, the stages of the interview, the interview schedule and how it was conducted and also analysed, towards reaching the aim of this research.

According to Rubin and Rubin (1995), in-depth interviewing needs intensive listening, respect for what people say and interest and systematic effort to understand what people express. Robson (2002) classifies interviews into three types, according to the degree of structure of the interview: fully-structured, semi-structured and unstructured interviews. Having compared different kinds of interviews, I concluded that fully-structured interviews were not appropriate for this study. This is because the interviewer has less freedom to modify the order and phrasing of the questions during the interview (Cohen, et al., 2007). Given the exploratory nature of research and the possibility of the emergence of new relevant issues, I anticipated that I might need to change the questions or ask new ones during the interview according to the answers I received. Therefore, the structured interview was considered too restrictive in this way. On the other hand, there is more flexibility and freedom in an unstructured interview so that it can be completely informal (Robson, 2002). This kind of interview was not chosen because the interviewer has less control on the interview process and the data generated might not be relevant and in line with what was required at the end. As a result, the semi-structured interview was considered as the best fit to the nature of my work, as discussed in detail in the next section.

There are several advantages in semi-structured interviews. As there is considerable control over the order of research questions, the researcher can collect the desired information. Moreover, its flexibility was very important for me as a non-native English speaker, because it allowed me to repeat the questions and ask for further explanations when the meaning was not clear. When the interviewer faces incomplete or even irrelevant responses, additional information can be requested. Personal interviews also normally involve better response rates, which is an important advantage (Ary et al., 2010).

4.5.1.1. Semi-Structured Interview

The semi-structured interview is defined as “a process in which a researcher and participant engage in a conversation focused on questions related to a research study” (DeMarrais, 2004, p.55). The semi-structured interview is “neither an open everyday conversation nor a closed questionnaire” (Kvale and Brinkmann, 2009, P.27). In this kind of interview the researcher is free to change the order and wording of the question for the particular interviewees (Cohen et al., 2007), and even add or delete questions.

The semi-structured interviews in this study were conducted face-to-face rather than by telephone or email. Although email or telephone interviews can be conducted more easily and quickly, the rich data generated in a conversation will not be obtained without direct contact with the respondents. Therefore, the interaction between interviewer and informants in face-to-face interviews was the key reason to choose this kind of interview. Wording of the interview questions plays a critical role in extracting views and opinions on the topic under study. In this regard, Patton (2014) emphasises that “using words that make sense to the interviewee, words that reflect the respondent’s worldview, will improve the quality of data obtained during the interview. Without sensitivity to the impact of particular words on the person being interviewed, the answer may make no sense at all – or there may be no answer” (ibid., p.312). Therefore, the wording of questions was an important focus in my pilot interviews, as they gave me the opportunity to become familiar with the terminology in common usage in Scottish schools.

Generally, all interviews consist of the following parts which can be changed by the interviewer in different types of interviews. They are:

- A set of questions (closed, open and scale questions)
- Probes and prompts
- A sequence for the questions (Robson, 2002)

The main body of questions I asked the participants were principally open-ended. Although these kinds of questions are difficult to control (by me, as the interviewer) and also to analyse, compared to closed questions, they have more advantages. The open-ended questions are flexible allowing me to go into more depth or clear up any misunderstanding and encourage co-operation. However, they could also produce unexpected or unanticipated answers (Robson, 2002). Therefore, I had a list of key questions and also freedom to change their sequence, their wording and the amount of time allocated to each of them.

Probes are used to get interviewees to expand their responses to specific questions (Robson, 2002). I used these tactics such as asking ‘anything more?’ or asking them to clarify their own personal view on a question with examples. Prompts are a list of possible answers I expected to hear from the interviewees (ibid.). This list of possibilities was expanded after conducting some pilot interviews and was used in the ‘real’

interviews, where I had prompts beside each question to ask about certain issues if they did not come up in the interviewees' answers.

In addition, I applied this commonly used sequence of questions:

1. Introduction: I initiated the interview by introducing myself, explaining the nature of the study and the aim of interview, assuring that respondent would remain anonymous in the study and asking permission to tape the whole interview.
2. Warm-up: this provided a situation at the beginning for me and the interviewees to become familiar with each other and settle down before starting the interview.
3. Main body of interview: I covered the main purpose of interview by sequencing the major interview questions in a logical order, considering the possibility of change during the interview (according to the answers received). In this order, the risky questions should be at the end so that, if the interviewee refuses to answer them or even to continue, less information is lost (Robson, 2002).
4. Cool-off: there were a few straightforward questions at the end, in order to check how the interview had gone, if we had missed something, or whether the interviewees wanted to add more points to their answers or ask me questions, or even whether they felt comfortable.
5. Closure is for saying thank you and goodbye. When the recorder is switched off, the interviewee might come up with interesting material. In this situation, it is important to know how we should deal with it. I asked them if it is fine to switch the recorder on again so that I could record what they said.

The set of the questions I asked in the interviews with RE teachers in this study is listed in Appendix D.

4.5.1.2. Implementation of Interviews

All the interviews were undertaken at times appropriate for the interviewees and in their schools. After giving them the information sheet explaining the research aims, they were asked to sign the consent form (Appendix C) which covered issues of confidentiality, anonymity and their right to withdraw at any time. There are different ways to record the interview, such as note taking and/or tape recording, I discovered that the best practice for me was to record the interviews using an audio tape recording. This method assisted me, as I am not a native speaker of English, and helped ensure that I did not lose any small part of the discussion. Thus I asked the informants to give me permission to record

the whole interview and all of them kindly agreed. Moreover, I preferred not to take notes during the interviews, as this prevented me from following the conversation and keeping pace with the interviews.

Before starting the interviews, the participants were informally asked to show the resources they use to support their teaching in S3 in their schools. They also described the main subjects in each resource that were part of the syllabus. I then conducted the formal interviews, which lasted between 40 minutes to one hour. At the end of each interview, the respondents were asked to add anything they thought had been missed.

All of the interviews were transcribed by myself and checked by a native speaker of English, to check for grammatical errors. An important issue in transforming the audio tape to the text is that the transcriptions do not give us an accurate account of the interviews. They do not illustrate the pause, the body language, accent and tone of the interviewees. Therefore, in addition to the transcriptions, I listened to the tapes several times, so as not to lose any valuable data which cannot be transcribed as a text.

4.6. Data Analysis Procedure

The data analysis procedure in qualitative research is defined as the process of searching and arranging the qualitative data collected by the researcher (such as transcribed interviews, field notes and documents) in order to understand and make sense of them. It also allows the researcher to communicate the findings with others (Bogdan and Biklen, 1998). Through this process, the data is organized and is broken down into meaningful and manageable units which allow the researcher to search for patterns and discover the information relevant to the research questions.

In this study, two types of qualitative data were analysed, curriculum documents and transcripts of interviews. This section addresses the nature of these two types of data and the analysis procedure. The main purpose of the analysis of the curriculum documents was to explore to what extent and in what ways critical thinking and its different elements are incorporated in the national curriculum documents for religious education. In addition, I aimed to find out if different types of critical thinking were integrated in RE documents in the two different sectors. The method employed for this purpose was content analysis, which could show whether and how the concept of critical thinking and

its elements appeared in the curricula. In addition, thematic analysis was used in order to explore other relevant ideas and meaningful approaches regarding critical thinking which may be implied by different parts of the documents. Several themes and categories were expected to emerge which could shed light on different aspects of the framework of critical thinking. Thematic analysis was also employed for the analysis of interviews, since I aimed to explore teachers' accounts of critical thinking and the meanings they attach to this concept in the context of religious education.

I use the term 'content analysis' method with this meaning: it "seeks to quantify content in terms of predetermined categories and in a systematic and replicable manner" (Silverman, 2004, p.181). In qualitative research however, the term content analysis is sometimes used very broadly and can be seen as including thematic analysis. For example, Miles and Huberman (1994) refer to content analysis as the process which involves seeking meaningful phenomena in the data, attributing relevant codes to them and extracting themes. In this thesis, I use the term 'content analysis' in its narrow sense, which does not refer to the thematic analysis. As explained above, content analysis in this study was only applied to the curriculum documents, while thematic analysis was employed for both curriculum documents and interview data. The main stages of the data analysis process are explained below.

4.6.1. Curriculum Document Analysis

There are three main stages in document analysis which include "skimming (superficial examination), reading (thorough examination), and interpretation" (Bowen, 2009, p.32). Both content analysis and thematic analysis were combined to increase my understanding of the documents with regard to purpose of the research.

Although some scholars, including Silverman (2000) have criticised content analysis as potentially inhibiting the interpretive process, the indicators of frequency of important terms may convey important and meaningful messages about the overall position of some concepts in the text. According to Holstein and Gubrium (2004, p.14), "content analysis is any technique for making inferences by objectively and systematically identifying specific characteristics of messages". The frequencies are not just numbers referring to 'manifest content', but the 'latent content' implied from the text can also be identified in the content analysis (Bowen, 2009).

In order to shed light on the second research question regarding the extent to which critical thinking is incorporated into curriculum documents for religious education, I developed my coding manual (Bowen, 2009), based on the framework of critical thinking suggested in Chapter 5. This included all the elements in the framework: lower level thinking skills, critical thinking skills and dispositions, in addition to the term 'critical thinking'. Exact phrases of critical thinking and all instances of its elements were counted to provide a comparative picture of critical thinking in these RE documents of the two different sectors. Content analysis was employed in two stages. First of all, I searched and counted the lower level thinking skills and sub-skills, as the lowest level skills in the framework, evident explicitly or implicitly in the RE documents (see Tables 6 and 10). The frequency of the instances of critical thinking elements (cognitive skills, meta-cognitive skills and dispositions), based on the framework, were then explored (see Tables 8 and 11). Comparing the result of these two stages demonstrated how balanced the image provided about critical thinking was in these documents and the extent to which emphasis was given to lower level thinking or critical thinking. It also shed light on the possible differences that these RE documents in different sectors may have in their coverage of critical thinking and its elements. The findings were combined with the thematic analysis for a fuller understanding of critical thinking integration in these documents.

Thematic analysis searches for underlying themes in a document with respect to a topic of interest. However, there is no agreement on the meaning of thematic analysis and how it should be carried out. This method seeks for patterns within qualitative data where emerging themes shape the building blocks of the analysis (Fereday & Muir-Cochrane, 2006). In defining the theme in thematic analysis it can be said that: "A theme captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set" (Braun and Clarke, 2006, p.82). In order to arrive at the relevant themes from the data, the research should begin with the process of coding and creating the categories.

Similarly to Fereday & Muir-Cochrane (2006) I combined both an inductive (bottom up) and deductive (top down) approach (Boyatzis, 1998) for the thematic analysis in this research. The analysis is inductive if the codes or themes are derived from the data and it is deductive if the analysis is based on the theory or an existing framework from the

literature (Patton, 2014). As I have developed a framework of critical thinking according to the literature for my study, this framework was the main basis of the analysis. Therefore, initially the analysis was deductive. However, this did not mean that the coding was restricted only by the framework. During the process of analysis, I looked for other interesting codes that came out of the data. This open coding was to find significant codes and consequently themes or patterns which could answer my research questions at the end.

The themes under each code could be at the semantic (explicit) level or latent (interpretive) level (Boyatzis, 1998; Bryman, 2004). The semantic themes are identified within the explicit meaning of the data; in contrast, the latent themes are beyond the semantic content and identify the underlying ideas beyond what has been written (Braun and Clarke, 2006). In this study I did not limit the themes to only the semantic level: I attempted to identify the latent themes as well. Therefore, I have themes at both levels, semantic and latent, in my analysis. As explained in Chapter 6, I obtained several important emergent themes (such as approaches to religion or truth and personal search) which provided great insights with regard to the conceptualization of critical thinking in the documents. These findings shed light on important differences among documents regarding how they treat the concept of critical thinking.

As different researchers have proposed different stages for thematic analysis, I outlined the following processes to analyse the curriculum documents beginning with data preparation and proceeding through writing up the report of the findings at the end:

1. Preparing the data
2. Initial coding based on the framework of critical thinking
3. Open coding
4. Searching for themes under each code
5. Reviewing and grouping themes
6. Writing up the report of findings

According to these stages of the analysis, I initially collected the documents used as national RE curriculum documents in each sector, non-denominational and Roman Catholic schools, as the data. In this process I started to immerse myself in the data to become familiar with the depth of the content of documents. Immersion involves

“repeated reading” of the data, and reading it in an active way to look for meanings and patterns before coding (Braun and Clarke, 2006, p.87). Thus, reading through the documents several times and carefully, with the picture of the critical thinking framework in my mind, gave me an overall image of the situation of critical thinking in those contents.

Then I started coding, based on the elements in the framework and open coding. These were the codes which appeared interesting to me and represented “the elements of the raw data or information that can be assessed in a meaningful way regarding the phenomenon” (Boyatzis, 1998, p.63). The initial codes I was searching for were the critical thinking terms and the elements of the critical thinking framework. In this part of the analysis I tended to explore the way these elements are applied in the documents, explicitly or implicitly. Then to carry out the open coding, I looked for the other codes related to the integration of critical thinking in documents.

Having coded all the content of RE documents, I analysed and sorted the codes into the themes. In this stage I had a list of themes such as the themes regarding the way the term critical thinking was evident in the documents, approaches to religion, position of truth, personal search, balance of religions in each document (see Tables 7 and 13). By reviewing all the themes, I prepared to discuss the findings and provide an analytical report of them which constitutes Chapter 8 of this thesis.

4.6.2. Interview Analysis

The third component of this research refers to the analysis of data generated from the interviews. An important issue was to decide what kinds of analysis were appropriate for the interviews, according to the aim and nature of the interview material (Kvale and Brinkmann, 2009; Kvale, 1996). The aim of analysing the transcription of interviews with RE teachers was to discern how they perceived critical thinking and the similarities and differences in their accounts of critical thinking. Therefore, as with the analysis of the documents, I found thematic analysis the best approach. The stages of thematic analysis in this section were the same as those undertaken in analysing the RE documents.

Once the data from the interviews had been generated, I transcribed what took place in the interviews and transformed them into written form. This ensured I did not ignore any

data. Although the process of transcription is time-consuming, it can be the best way to start familiarizing ourselves with the data (Riessman, 1993). Having checked the transcriptions with the audio recordings, I read and re-read them several times to be familiar with the data and formulate some initial ideas. I took notes of these ideas and this was the basis of undertaking the formal process of coding in the next stage.

According to Bowen, the codes for interview transcripts could be defined in advance, based on other sources such as the existing literature (Bowen, 2009). Thus, the framework of critical thinking was the main and preliminary base of coding. Based on this framework, codes were the different levels of thinking skills, including critical thinking skills, in addition to dispositions. Moreover, open coding was also used, in order to look for other codes which seemed interesting or important to me as the researcher (Boyatzis, 1998). I analysed the data manually because of the low number of interviews (9 participants). In this process I kept the original copy of all transcripts in my computer, printed a copy of each one and worked on these paper-based versions of the data. I used different coloured highlighters to identify the different codes and wrote notes on the texts. I continued coding to ensure all data were coded and no sections of data were ignored. Afterwards, all codes were reviewed, to collapse the codes with similar meanings into one heading. This was to reduce the number of headings and obtain the final list of codes.

Having identified codes across all data, the next step was to search the themes under each code. This was the interpretative part of the analysis, comprising semantic and latent themes. The semantic themes were identified explicitly in what the participants had said on the definition of critical thinking and its development in RE. In addition, I examined what ideas were unsaid or lay behind the interviewees' responses as the latent themes, in order to develop a deep understanding of their approaches to critical thinking. In this stage it was helpful to use "visual representations" such as tables, or mind-maps in order to sort the different codes into themes (Braun and Clarke, 2006, p.89). I then developed a table; the list of the respondents was down the side and the codes across the top with a list of themes under each code. This was done to find the relationships between codes and also between themes. During this phase I refined the themes by collapsing some themes into each other or breaking down some of them into separate themes. At the end of this phase I had a satisfactory map of coherent, consistent and distinctive themes by which the research questions could be answered. For instance, the analysis revealed the themes

concerning the RE teachers' approaches to critical thinking and themes related to their knowledge on critical thinking in RE curriculum documents (see Table 19).

The final stage was writing up an overall story of the data. This type of analytic narrative should be coherent and convincing, supported with adequate evidence of themes or data extracts in different parts of the story (Braun and Clarke, 2006). The report of the interview analysis, its relation to curriculum document analysis and the story of the whole data analysis are all gathered in the discussion chapter (Chapter 8).

4.7. Trustworthiness (Validity and Reliability)

While there are many different approaches to the notion of validity in qualitative research, qualitative scholars agree that for every qualitative study, we need to ensure the credibility of the results. In order to decide which procedure is relevant to establish the validity in qualitative research, "the lens researchers choose to validate their studies and researchers' paradigm assumptions" is very important (Creswell, 2000, p.124). It depends who is assessing the credibility of the research and what is the philosophical position of the researcher. Since the connotation of validity is somewhat different from that used in quantitative studies, other terms such as trustworthiness and authenticity are recommended as quality criteria in qualitative research (Creswell & Miller, 2000). Given the different nature of qualitative research, Guba (1981) and Lincoln and Guba (1985) suggest using different terms rather than validity and reliability: *Trustworthiness* and *Authenticity*. Trustworthiness includes four different criteria, each of which is parallel to an equivalent criterion in quantitative research:

Credibility which is similar to internal validity,

Transferability which is similar to external validity,

Dependability which is similar to reliability and

Conformability which is similar to objectivity (Bryman, 2015, p.384).

There are other scholars who continued to use the same terms, validity and reliability, across both quantitative and qualitative research, although they acknowledge that these criteria have different connotations in qualitative and quantitative research.

"Qualitative validity means that the researcher checks for the accuracy of the findings by employing certain procedures, while qualitative reliability indicates that the researcher's

approach is consistent across different researchers and different projects” (Gibbs, 2007 cited in Creswell, 2013, p.201). Several strategies have been recommended throughout the research process for the qualitative researcher to make sure that the results of the research are accurate (Creswell, 2013; Bryman, 2015). Given that I am doing this research within the interpretive paradigm, which also holds a social construction view of reality, I applied some of these relevant strategies in the current research. The following measures enhanced the trustworthiness of my research with reference to the four different criteria mentioned above:

1. In the combination of interviews and curriculum documents for data collection, a triangulation strategy was employed (Bryman, 2015), which provided a rigorous base for the validity of the conceptual framework developed for the analysis of critical thinking. Analysing two different data sources, curriculum documents and teachers’ interviews, based on the conceptual framework increased the credibility of this framework. Nonetheless, this aspect of trustworthiness could be improved further by collecting other types of data observation of real practices of teaching critical thinking in the classroom.
2. Sampling the wide range of schools with regard to religious education also helped me to gain access to a variety of approaches to critical thinking. This is one of the main objectives of this research: to explore teachers’ accounts of critical thinking, which was possible with a relatively diverse range of teachers from different types of the schools. This relatively wide coverage provided a large and detailed database (Lincoln and Guba, 1985) of information about different accounts of critical thinking, allowing others to make judgments about transferability to other contexts. This is another aspect of trustworthiness which is addressed in this research.
3. Implementation of the pilot phase made me familiar with the sort of social settings, creating a prolonged time for analysis and reflection before I began the main phase of data collection. This deeper understanding of how teachers might treat me as an external researcher and how they felt happy to provide data helped me to learn how to approach them and how to ask questions in the main phase of the research to collect data. This pilot process was helpful to make sure the questions were understandable for teachers and there was nothing sensitive which

might inhibit them in providing accurate information. This pilot phase assured me it was safe to continue the rest of the research with the good practices and the necessary skills required for a professional piece of qualitative research. As a result, the credibility aspect of trustworthiness was again increased.

4. In order to further increase the credibility of my accounts I relied on peer debriefing (Creswell, 2013) with my supervisors, as experts in the field, who always reviewed the whole research process and asked several questions. These questions, both in our meetings and as notes on my writing helped to ensure further clarification, making the research understandable for an audience beyond the researcher.
5. I took some measures to make sure that teachers were willing to provide relevant information during the interviews, increasing the dependability of this research. Before the interview, I always explained the main purpose of the interview and how the data were going to be used. I gave them the confidentiality letter and requested their consent to record their voices. As a result, informed consent, confidentiality and consequences were all addressed by the researcher (Kvale, 1996). In addition, I tried to be as respectful as possible, but also established a friendly relationship for better communication and mutual understanding. By asking some questions in different ways, asking just one question at a time, avoiding the interruption of participants and also avoiding leading questions (Fraenkel and Wallen, 2003), I tried to collect valid interview data. Again, implementation of these tactics helped me enhance the reliability of data collected for this research, assuring me that the interviewees provided a full account of what they really thought about critical thinking. Based on these procedures, I believe more or less the same data could be collected by other researchers, if a similar process is implemented.
6. Several points were taken into account to ensure the conformability of data analysis in this research, another important aspect of trustworthiness in qualitative studies. All the interview data were transcribed by the researcher, providing a good opportunity for better understanding of the data. Using several iterations of movement between the data, both interview transcripts and curriculum documents, I became confident that the codes and categories had a considerable

match with the data. Codes and categories had gone through several stages of revision and re-categorization, while the data had been read several times. For example, the theme ‘approaches to religion’ was not in the first round of the coding of documents. However, it became clear in further analysis that this theme could shed light on important differences of how critical thinking is incorporated in the documents.

7. Reflexivity and considering possible bias by the researcher was another strategy to increase the conformability of qualitative research which will be discussed separately, in more detail in the next section, due to its importance in this research. Although complete objectivity is not possible in social research (Bryman, 2015), I tried to be as explicit as possible about my personal background, preventing my personal values from manifestly influencing the conduct of the research.
8. I believe that the conceptual framework of critical thinking developed in this research offers a good potential for external validity, or what qualitative researchers call transferability (Guba and Lincoln, 1994). This is because the framework was first developed based on the common agreements of the key scholars in the area of critical thinking. It was tested in the context of religious education, but, after minor modifications, could prove useful for the analysis of critical thinking in other subject areas.

As I defined it above, reliability refers to the consistency of the research process, which allows for the replication of a similar procedure by other researchers. As Bryman, (2015) and also Yin (2003) suggest, I kept a full record of all the stages of the research, from problem formulation, development of the conceptual framework, selection of the data samples and participants, to the later stages of data collection. This enables others to ‘audit’ the whole process of the research, assessing how implementation and inferences are justified.

For enhancing the reliability in conducting and interpreting the interview, Silverman (2000) suggests the extended use of closed questions, careful piloting of interview schedules and ‘inter-rater reliability’ in the coding of responses. Inter-rater reliability means if other researchers with the same theoretical framework had done the research on

the same phenomena, they would have interpreted them in the same way (Denzin and Lincoln, 1994). While the practical limitations of the study did not allow me to do a complete inter-rater approach, I did practice an inter-coder approach with a friend who had familiarity with the subject. I asked him to check the codes I had developed with the data to make sure that they made sense.

To ensure the reliability of the analysis of RE curriculum documents, I considered the following issues:

- Choosing documents which were written for use in RE curriculum in schools and not for other purposes,
- Being careful about coding the ambiguous words that have different meaning (like truth, confessional approach),
- Categorising the ambiguous themes and
- Grouping words together which have different connotations into a similar category (Cohen, et al., 2007).

4.8. Reflexivity

One of the aspects of all research which should be considered is researcher reflexivity, or the role of researcher as an insider or outsider in the study. Reflexivity is viewed not only as the analytic attention to the researcher's role in the research but also as a “means of adding credibility in the form of articulating the researcher's personal views and insights about the phenomenon” (Dowling, 2006, p.17). As a Muslim woman my appearance, attitudes and beliefs affected different stages of my study, including: collecting the data through interview, interacting with participants, data analysis and evaluating the findings. I needed to take into account possible shortcomings of my research, the challenges I encountered and the strategies I developed to overcome them. Thus I am aware of my impact as a religious person in the research and making this clear to the readers of the research.

While many international students study and collect data about their home country, researching topics about, and in, a foreign country is interesting from a practical, cognitive and epistemological perspective. It is not only the location, language and culture that create challenges for me as a researcher; the topic of the research makes it even more complicated when compared with my own background belief system and my

previous approach to other religions. As an Iranian Muslim woman working on religious education in Scotland and collecting data from Scottish Catholic and non-denominational schools from interviews with religious education teachers, a unique position is created for the reflection of the role of a partial insider and partial outsider in affecting the research process and the results. Being a religious researcher interested in investigating religious education in schools in which RE teachers have faith themselves or have an interest in religions had costs and benefits in this study. In addition, both similarities and differences in culture and faith provided opportunities and challenges to me in conducting my study. These will be discussed very briefly in this section.

4.8.1. Insider Status

According to Kanuha's view the researcher has an insider role if he/she "conducts studies with population, communities and identity group of which they are also members" (Kanuha, 2000, p.439). Although I do not belong to the Roman Catholic (or other branch of Christianity) population, having a faith (which is clear with my hijab) could make me be perceived as a partial insider on one hand.

Insider accounts in qualitative research have a range of advantages which I benefited from in my study. For instance, my insider role provided a friendly and welcoming atmosphere between myself and the RE teachers during the interviews, particularly in Roman Catholic schools. Although there was a culturally different background between myself and the respondents, the religious background of RE teachers in Catholic schools or the interest in religion of other RE teachers may have made them more open with me. Because my hijab made it obvious that I am familiar with and even practice a religion, then they may have felt comfortable in explaining the situation of Christianity or other religions in their school and sometimes comparing it with Islam. Consequently, one advantage of this close relationship was the possibility of accessing deeper and less biased information than was likely had it been generated by a complete outsider.

Another advantage of insider status is "having intimate knowledge of the context of the study, and a great deal of information which it takes outsider a long time to acquire" (Robson, 2002, p.382). Therefore, as a religious researcher, I was aware of the background of the research which was religious education and then I benefited from this advantage of insider account.

In addition, one of the problems of closeness to the participants is that they will make assumption of similarity and then fail to fully explain their individual experience in the interviews (Corbin Dwyer and Buckle, 2009). As my faith was different from the participants', it did not allow me to be too close to the interviewees, and thus, the disadvantages of insider status might not affect this research.

4.8.2. Outsider Status

While practicing a religion could give me a partial insider role on the one hand, collecting the data in Scottish schools as an Iranian Muslim student highlights the outsider status much more. The researcher will be an outsider if he/she does not share the same membership status in relation to the participants in the research (Corbin Dwyer and Buckle, 2009). The aspects which make me an outsider in this study can be considered as: coming from a country with a different culture and language from Scotland and having a different faith background (Islam) to the participants in both the Catholic and non-denominational schools. Being an outsider researcher in the process of data gathering and analysis affected my study in different ways.

Collecting the data in your home country has advantages for the investigator in comparison to doing so in a foreign country with a different language. Getting access to the participants is easier when you are familiar with the system. More significantly, conducting and interpreting the interviews will not be as a great challenge as when using your own language. One of the main barriers I experienced in this study was the difficulty in finding a way to get access to the Scottish secondary schools (Roman Catholic and non-denominational). What made it more difficult was the small number of Catholic schools in each local authority. Sending several emails and explaining the significance of the study alone (without them knowing the researcher) did not provoke them to participate in this research. In this situation, having an insider supervisor (from the Catholic faith) who was familiar with the education system and even knew RE teachers in Catholic schools and his privileged access to those schools opened the gate for me. When he introduced me to the RE teachers in Catholic schools as his student, the situation changed. I received answers from them in which they demonstrated their interest in participating in my work and being interviewed by me.

Beside the challenges I faced in data collection because of my position, I experienced more opportunities through being a partial outsider in this study. One of the strengths I faced during the interviews was that, although I knew the questions to ask, I could not predict the answers from the respondents. Therefore, this did not allow me to make strong assumptions about the responses. In addition, my position as an outsider created a situation in which I was able to freely ask fundamental things about the situation of religious and moral education in their school in a way which might have seemed disingenuous from an insider. Accordingly, as far as I can say, the respondents tended to answer all of my questions completely and in detail. If I was an insider, they would probably have assumed that I would know the general issues and therefore would have not described them in detail.

Moreover, being a PhD candidate and carrying out research in those schools instead of being a practitioner made me an academic outsider, in the participants' view. This was beneficial for me, as this may have encouraged them to give what they hoped would be helpful answers. This position seemed to have a positive impact on their attitude towards me, which allowed them to become engaged in the topic and avoided them applying self-censorship. A trust was built between us very soon, because they found out I did not come to change anything in their school, or in their education system, or even criticise them in what they were doing. It might have provided a situation in which they freely explained with sympathy and without intentional avoidance of explaining critical aspects of their work. For instance, one of the interviewees mentioned at the early stage of the interview that "we do not have critical thinking in S3 and S4 in our school" and he emphasised this in the whole interview. However, analysing the interview revealed the implicit development of critical thinking in his discourse.

4.9. Challenges and Ethical Consideration

Working with schools has its own rules and problems. The first problem I faced was getting access to schools in order to conduct interviews with RE teachers, which took a long time. Time limitation during the school year to access teachers for interview was another difficulty I had in my research. For instance, at the start and end of each term, near the exam time or Christmas holiday, the teachers were too busy to arrange a time for interview. In addition, conducting and transcribing the interviews with Scottish people, for me, as a foreigner whose first language is not English, was difficult and complex. To

minimise this problem, I asked interviewees to speak slowly and clearly and repeat their words if they were not obvious. I also practised interview skills during the pilot study. I knew I should be careful about my speaking, behaviour and reaction, not to state something tactless which might discourage participants from continuing.

As has been emphasised by other researchers, “to a large extent, the validity, and reliability of a study depend upon the ethics of the investigator” (Merriam 2009, p.15). As part of my research was carrying out interviews and these involve interaction with people, it is important to consider some ethical dimensions of the research. Firstly, I received permission from the university and then from the local authorities to do my research in schools. Therefore, I followed the BERA ethical guideline which is the guideline for educational research. “All researchers are responsible for ensuring that participants are well-informed about the purpose of the research they are being asked to participate in; understand the risks they may face as a result of being part of the research; understand the benefits that might accrue to them as a result of participating and [must] feel free to make an independent decision without fear of negative consequences” (Fritz, 2008).

Informed consent is a procedure by which people choose whether to participate in a research after being informed of facts that would affect their decision (Diener and Crandall, 1978). This is the researcher’s responsibility for ensuring that interviewees are well-informed about the aim of research and feel free to make a decision without any fear (Fritz, 2008). Therefore, I gave full information about the research, its aims, and the subject of interviews to the participants and ensured that they had real freedom of choice to accept or refuse to take part in this investigation. I informed that the result of my study might be published and accessible for other researchers.

Anonymity, for this, I assured interviewees that what they said would be used in my study anonymously and I would in no way reveal their identity.

4.10. Conclusion

In this chapter I discussed the appropriate methods for collecting and analysing data in order to answer the research questions. In this respect the ‘comparative qualitative’ approach was chosen as an overall research design and ‘interpretive research paradigm’

was introduced for this study. I then explained the main stages of the research, which are designing a framework of critical thinking, analysing RE curriculum documents of non-denominational and Roman Catholic sectors and analysing the interview with RE teachers in both sectors, in addition to the pilot phase of the study. Accordingly, I presented the data sources, comprising the Scottish secondary schools RE curriculum documents and RE teachers' own accounts, and justified why and how they were selected in this research. Table 1 showed that, finally, 5 RE teachers in 5 non-denominational and 4 RE teachers in 3 Roman Catholic schools participated in my study. The RE curriculum documents to be analysed in this study were RME documents of the non-denominational sector in *Curriculum for Excellence*, the RERC documents in *Curriculum for Excellence* and *This is our Faith* for Roman Catholic schools. The semi-structured interview as the data collection procedure was then described, together with its advantages, process and implications. In the process of data analysis, both 'content analysis' and 'thematic analysis' were chosen to analyse the RE documents, based on the framework of critical thinking and comparing the integration of critical thinking in RE documents of both sectors. These types of analysis were defined and the way they were applied to the documents described in detail. Similarly, 'thematic analysis' was identified as the appropriate type of analysis for interviews. I then discussed the issues of trustworthiness (validity and reliability) in each stage of this qualitative research and the reflexivity which accords with my outsider position as the researcher within the research process. Finally, I explained the challenges I faced during the research and how they were addressed and also the ethical issues I considered. Having clarified these processes of this study, I will describe the main stages of the research study in the next chapters.

Chapter 5: Framework of Critical Thinking

5.1. Introduction

One purpose of this study was to develop an operational model of critical thinking in religious education in non-denominational and Roman Catholic schools. The need to develop my own model became clear after the review of literature on critical thinking reported in Chapter 2. While looking for an appropriate framework for my research, I found a variety of taxonomies and frameworks of thinking skills and critical thinking with useful contents (described in sections 5.3 and 5.4). However, I did not find one comprehensive model covering all the elements of critical thinking which I considered potentially important within the study of Religious Education. Therefore, I decided to develop my own framework of critical thinking based on the existing literature. The reasons for not using an existing framework and accordingly developing the new one are given in detail in section 5.2. In section 5.3 I describe how I developed the different elements of critical thinking in my framework. Table 5 in this section presents the elements of critical thinking framework in this study. Figure 1 visualises the framework of critical thinking I developed, and the hierarchical relation between its elements. This framework is one of the original contributions to knowledge of this research. It was later applied to analyse RE curriculum documents to identify the types of critical thinking incorporated in those documents (see Chapter 6) and to analyse teachers' understanding of critical thinking in RE and also compare the result of the analysis in the two different sectors, non-denominational and Roman Catholic schools (see Chapter 7).

The development of this framework was based on the literature on critical thinking. The main factor I took into account when considering the development of this new framework was how it would fit the purpose of my study and meet its requirements (as explained in the next section). The practical application of the developed framework, which is presented in Chapters 6 and 7 is important in that it demonstrates the usefulness of this framework. There was some further refinement to the framework as a result of the application and this is explained in Chapter 8.

5.2. What Would an Appropriate Framework for this Study Look Like?

There seemed to be three main ways to reach an acceptable framework which could fit the purpose of this study:

1. Using a readily available framework which had all the characteristics I required
2. Selecting elements from the most relevant frameworks but customising them according to requirements of this study
3. Developing a completely new framework

The large number of available frameworks, the most important of which are examined in sections 5.3 and 5.4, suggested that the third option was not a wise approach. This was due to the considerable theoretical work required to develop reliable frameworks for different purposes and drawn from various disciplines, principally education, philosophy and psychology. This volume of work could not be replicated as one part of a PhD study. Moreover, given that there are a large number of recommended frameworks in the literature, it did not seem reasonable to ignore the existing intellectual work.

Accordingly, I evaluated the first, and simplest, option; this resulted in the review of available frameworks that are relevant to the development of thinking skills (section 5.3) and critical thinking (section 5.4). The evaluations of these frameworks were based on the literature on critical thinking presented in Chapter 2. While there were different definitions of critical thinking from different scholars, the key scholars who provide the most cited definitions agreed on *higher level thinking skills* (cognitive and meta-cognitive) and *dispositions* as the main elements of critical thinking (Ennis, 1989, Facione, 1992, Paul, 1993 and Halpern, 1998). In addition, the higher level thinking skills are dependent on lower level ones, such that it is not possible to apply higher order skills without having knowledge or understanding of what thinking is about (Krathwohl, 2002). Thus, I considered lower level thinking skills as the prerequisite of the higher level thinking skills of critical thinking. Another reason for including lower level skills in my framework was based on the purpose of this study. As I intended to analyse and compare critical thinking in curriculum documents and also in teachers' perception in two sectors, it was necessary to have lower level skills as the baseline in order to compare the relative position of critical thinking skills in comparison with lower level skills. This was to show whether the emphasis was more on the skills of critical thinking or lower level skills in RE curriculum documents and in the teachers' responses regarding developing critical

thinking in RE. As a result, I developed a hierarchical framework for this study with the following significant elements:

1. Lower level thinking skills
2. Higher level thinking skills (cognitive)
3. Higher level meta-cognitive skills (meta-cognitive)
4. Dispositions

Thus, I considered inclusion of all these required elements in a framework as the main criteria to evaluate the existing frameworks. I started with the frameworks and taxonomies classified as the frameworks for thinking skills and those specifically for critical thinking, because of the theoretical focus and questions of this study. The problem I discerned in the taxonomies of thinking skills was that they were not developed specifically for the analysis of critical thinking. In other words, they only consist of lower and higher level cognitive thinking skills and accordingly ignored the meta-cognitive skills and also dispositions of critical thinking. The following section describes the evaluation of these taxonomies and their limitations.

Exploring the frameworks of critical thinking revealed their strengths in terms of detailed analysis and classification of all aspects and processes involved in critical thinking. They usually cover both the skills required for critical thinking and dispositions and motivations which support the process of reasoning and argumentation while focusing on details and sub-details of each and their interactions and interdependencies (Moseley et al., 2004). In spite of these benefits, I found it difficult or almost impossible to apply these frameworks to the analysis of the RE curriculum documents. One reason was that they were essentially developed to analyse critical thinking at the level of the individual or group. Therefore, the degree of detail and the level of focus were much higher than what I needed for the analysis of curriculum documents. The second problem with these models is that they focus mostly on higher order thinking skills and dispositions and, as a result, exclude lower thinking skills from their analysis. More explanation on the limitations of these frameworks is provided in section 5.4. The combination of these factors meant that I needed to develop my own analytical framework for this research, with less detail on higher order thinking and dispositions and more coverage on lower level skills.

The discussion above shows why no single available framework was suitable for this study. As a result, I took the second option, picking a number of frameworks, revising their elements and developing my own particular framework of critical thinking appropriate for the analysis of RE curriculum documents and teachers' perception of critical thinking. This framework, after application in this study and possible modifications based on the finding of this research, could be employed in similar studies. As a result, it is reported in this section as the conceptual contribution of this thesis.

5.3. Frameworks of Thinking Skills

Having searched extensively in the literature, I found great numbers of thinking skills frameworks designed for different educational purposes (Bloom, 1956; Romiszowski, 1981; Jewell, 1996; Marzano, 2001; Anderson and Krathwohle, 2001; Presseisen, 2001; Moseley et al., 2005). Exploring different frameworks of thinking skills reveals that Bloom's taxonomy and its different versions and variations are the core frameworks developed primarily for teaching and educational purposes. They have wide scope, covering from lower levels to higher levels of thinking, and usually with less detail of sub-skills. In fact, many thinking skills frameworks are some kind of regrouping, de-grouping, or simply change in ordering or rewording of Blooms' taxonomy that more or less follow the same basic logic. These characteristics might be one reason that Bloom's taxonomy is widely applied to analyse thinking skills in different subjects (Lee, 2010). This is the reason I chose the original taxonomy of Bloom (1956) and its well-known revision by Anderson and Krathwohle (2001) to describe and evaluate in detail. The other selected framework in this section is the integrated model for understanding thinking and learning by Moseley et al. (2005). This is the one suggested by a group of researchers after their revision of 35 theoretical frameworks of thinking. The process of developing their particular framework based on the evaluation of these great numbers of frameworks was extremely useful in designing my own framework.

The following list is of frameworks reviewed in sections 5.3.1 – 5.3.3, along with the reasons why none of them was chosen for my study:

1. Bloom's taxonomy of educational objectives (Bloom, 1956)
2. Anderson and Krathwohl's revision of Bloom's taxonomy (Anderson & Krathwohl, 2001)

3. Integrated model for understanding thinking and learning by Moseley et al. (2005)

5.3.1. Bloom's Taxonomy of Educational Objectives

This well-known taxonomy of educational objectives was produced by a group of college and university examiners under the leadership of Benjamin Bloom in 1956. It was a useful tool for educators to plan better instruction and measure categories of thinking in test items (Lee, 2010). Bloom's taxonomy consists of six main hierarchical categories of thinking, from simple to complex: *knowledge*, *comprehension*, *application*, *analysis*, *synthesis*, and *evaluation* (Bloom, 1956). There are different ideas about how to divide these skills into lower and higher thinking skills. While some scholars count knowledge as a lower skill and the 5 other categories as higher level thinking, others classify knowledge and comprehension in lower levels of thinking and application through to evaluation as higher levels (Melter, 2003, cited in Lee, 2010).

Although Bloom did not explicitly mention critical thinking, some of the basic thinking skills in his taxonomy are similar to those which other researchers call critical thinking skills. However, as this is not a framework of critical thinking, there is an absence of the meta-cognitive skills and dispositions of critical thinking. Therefore, while it has been applied by many researchers in order to measure basic thinking skills in education, it cannot be the comprehensive tool for my study.

5.3.2. Anderson and Krathwohl's Revision of Bloom's Taxonomy

Anderson and Krathwohl rejected the hierarchical foundation of Bloom's taxonomy and revised it in 2001. In this revision they separated knowledge from the other thinking skills and made a two-dimensional framework comprising knowledge (as the first dimension) and cognitive processes (as the second dimension), and they also renamed some of Bloom's original thinking skills (Anderson and Krathwohl, 2001). The six cognitive categories in this taxonomy are: *remember*, *understand*, *apply*, *analyse*, *evaluate* and *create* and each of them has sub-categories (ibid.). They changed *comprehension* in the original taxonomy to *understand*, as they thought this is a commonly used term by teachers in stating objectives (Krathwohl, 2002). Furthermore, the general term *create* is used instead of *synthesis*, in which synthesis could be part of creation (Anderson and

Krathwohl, 2001). This taxonomy has been used in many studies to analyse lower and higher levels of thinking (Lee, 2010).

While knowledge is separated from other cognitive skills in this taxonomy, both lower and higher levels of thinking skills can be seen in the second dimension, which is the cognitive process. Lower and higher level thinking skills are not distinguished in their revision. However, some higher order cognitive skills of critical thinking are found in the second dimension of this taxonomy. Due to the absence of meta-cognitive skills and dispositions of critical thinking, this framework, like Bloom's, is not in line with the purpose of this study. While these two taxonomies are developed primarily for teaching and educational purposes and have a wide scope, covering from lower to higher levels of thinking, they are not appropriate for my research. However, in designing different elements of my framework I used the skills categorised in these two taxonomies.

5.3.3. Integrated Model for Understanding Thinking and Learning, by Moseley et al.

Having evaluated a variety of thinking frameworks, Moseley and his colleagues designed their own integrated framework (Moseley et al., 2004, 2005). Their framework consists of five categories of thinking which are: "*information gathering, building understanding, productive thinking, reflective thinking, and strategic management of thinking*" (Moseley et al., 2005, p.378). These categories are grouped in two levels; cognitive (including the first three categories) and meta-cognitive skills (the last two). A study of the construction process of this framework reveals that *information gathering* and *building understanding* have been derived from the lower level of thinking in Bloom's taxonomy and its revision by Anderson and Krathwohl. Furthermore, the higher order thinking skills identified in these two earlier taxonomies are called *productive thinking* in this integrated framework. For Moseley and his colleagues 'productive thinking' is a general term which includes critical thinking cognitive skills (Moseley et al., 2005). However, in this framework these two levels of thinking skills, lower and higher, are placed in the same level (first level), labelled 'cognitive skills'. In the second level of this framework *reflective* and *strategic thinking* are identified as meta-cognitive skills.

One problem of this integrated model is that applying it does not allow me to discriminate between lower and higher levels of thinking skills. Moreover, for Moseley and his

colleagues, the meta-cognitive skills are not part of critical thinking. Therefore, the limitation of this framework is that it cannot provide a complete picture of the elements of critical thinking, its skills and dispositions.

Although the frameworks of thinking skills described in this section would be compatible for measuring thinking skills, there are some weaknesses in these kinds of frameworks. The most obvious one, with regard to the purpose of this study, is that they do not usually refer to critical thinking explicitly, although some types of higher levels thinking skills could be found in those frameworks. Another related problem is that not all of them refer to meta-cognitive skills, which are part of the higher level thinking skills of critical thinking. Moreover, they do not discuss the dispositions which are highlighted as elements of critical thinking in the literature. Despite the disadvantages of these frameworks, they were helpful in designing the lower and higher (cognitive) levels of thinking skills in the framework of critical thinking in this research.

5.4. Frameworks of Critical Thinking

In this section I explain some of the well-known frameworks of critical thinking and their strengths and limitations. These are the frameworks developed by the key scholars who have provided the most cited definitions of critical thinking (e.g. Ennis, 1987, 2011; Halpern, 1984, 1997; Paul, 1982, 1987, 1993). Having explored the characteristics of these frameworks in detail, I will discuss the reason why none of them in their current format is the appropriate one to be applied in my research. I then go on to describe how I used the elements of these frameworks to make a particular model for my research. The frameworks of critical thinking I have reviewed are:

1. Ennis's taxonomy of critical thinking dispositions and abilities (Ennis, 1987, 2011).
2. Halpern's reviews of critical thinking skills and dispositions (Halpern, 1984, 1997)
3. Paul's model of critical thinking (Paul, 1982, 1987, 1993)

5.4.1. Ennis's Taxonomy of Critical Thinking Dispositions and Abilities

Ennis developed his well-known taxonomy to provide a basis for the teaching of critical thinking and also an outline of a conception of critical thinking (Ennis, 1998). His work is

based on his much cited definition of critical thinking which is “reasonable and reflective thinking that is focused on deciding what to believe or do” (Ennis, 1989, p.4). In his taxonomy he defines 15 skills and their sub-skills as the abilities of critical thinking, and three main dispositions, with sub-categories (Ennis, 1998). Although Ennis claims that his taxonomy is simple and coherent and can be applied in different ways (Ennis, 1996), Moseley et al. (2004), in their evaluation of this taxonomy, conclude that the number of items and the relevance of the broad categories and sub-categories to special fields makes it difficult to implement.

Ennis recently revised his taxonomy to include 16 skills of critical thinking and 3 main dispositions, with sub-categories (Ennis, 2011). However, comparing it to the former one shows no huge differences, only one skill and sub-categories have been added to the previous one. All the categories of Ennis’ taxonomy are listed in Table 2.

Table 2: Ennis’s taxonomy of critical thinking dispositions and abilities (Ennis, 2011, p.6)

Abilities	Dispositions
<ol style="list-style-type: none"> 1. Focus on a question 2. Analyse arguments 3. Ask and answer clarification and/or challenge questions 4. Reasonably judge the credibility of a source 5. Observe, and reasonably judge observation reports 6. Use their own otherwise-established conclusions 7. Deduce, and judge deductions 8. Make justified material inferences (broadly “induction”) to <ol style="list-style-type: none"> a. Generalizations b. Explanatory hypotheses 9. Make and judge value judgments 10. Define terms and judge definitions 11. Attribute unstated assumptions 12. Consider and reason from premises, reasons, assumptions, positions, and other propositions with which they disagree or about which they are in doubt, without letting the disagreement or doubt interfere with their thinking (“suppositional thinking”) 13. Integrate the dispositions and other abilities in making and defending a decision 14. Proceed in an orderly manner appropriate to the situation <ol style="list-style-type: none"> a. Follow problem-solving steps, and argument-appraisal steps b. Monitor their own thinking (that is, engage in metacognition) c. Employ a reasonable critical thinking checklist 15. Take into account the feelings, level of knowledge, and degree of sophistication of others 16. Employ appropriate rhetorical strategies in discussions and presentations (oral and written), including employing and reacting to fallacy labels in an appropriate manner 	<ol style="list-style-type: none"> 1. Care that their beliefs are true, and that their decisions are justified, that is, care to “get it right” to the extent possible, including to <ol style="list-style-type: none"> a. Seek alternative hypotheses, explanations, conclusions, plans, sources, etc., and be open to them b. Consider seriously points of view other than their own c. Try to be well informed d. Endorse a position to the extent that, but only to the extent that, it is justified by the information that is available e. Use their critical thinking abilities 2. Care to understand and present a position honestly and clearly, theirs as well as others’, including to <ol style="list-style-type: none"> a. Discover and listen to others’ views and reasons b. Be clear about the intended meaning of what is said, written, or otherwise communicated, seeking as much precision as the situation requires c. Determine, and maintain focus on, the conclusion or question d. Seek and offer reasons e. Take into account the total situation f. Be reflectively aware of their own basic beliefs 3. Care about every person, including to <ol style="list-style-type: none"> a. Avoid intimidating or confusing others with their critical thinking prowess, taking into account others’ feelings and level of understanding b. Be concerned about others’ welfare

As can be seen in Table 2, this is a comprehensive framework covering a variety of critical thinking skills, sub-skills and dispositions. However, the level of detail in this framework is not appropriate for the levels of analysis in my study. In other words, the details in this taxonomy are not at the level which can capture the broad similarities and differences of integration of critical thinking in the curriculum documents and teachers' perceptions in the two sectors. What I am concerned to explore in this study is the overall picture of critical thinking in RE curriculum documents and teachers' accounts in a broad sense. Moreover, as I explained in section 5.2, I intend to apply the lower level thinking skills in addition to critical thinking skills, and these are not addressed in this framework. Therefore, this framework in its current format is not applicable for the purpose of my study. However, I have considered the elements of critical thinking in Ennis's taxonomy in developing my own framework.

5.4.2. Halpern's Reviews of Critical Thinking Skills and Dispositions

Although Halpern does not describe her review of critical thinking skills and dispositions as a taxonomy, her work is wide and rich in detail, and therefore can be described as a framework (Moseley et al., 2004). Her purpose was to provide a source for the national assessment of critical thinking skills and she uses a general definition of critical thinking. She defines critical thinking as "purposeful, reasoned and goal-directed thinking [which is] the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions" (Halpern, 1998, pp.450-451). She categorises different skills of critical thinking with sub-categories for each and recommends that teachers aim to develop dispositions of critical thinking in students. Table 3 demonstrates her view of the categories of critical thinking skills and dispositions.

In their evaluation of this framework, Moseley et al. (2004) point out that it does not include a comprehensive list of critical thinking skills, as Halpern claims, and that many gaps can be identified. In my view, all the skills she lists as critical thinking are higher level, except 'memory skills', which I would identify as a lower level thinking skill. The meta-cognitive skills of critical thinking are missing in this framework. However, I have taken into account the higher order skills and dispositions of critical thinking stated in her framework in developing my model of critical thinking.

**Table 3: Critical thinking skills and dispositions in Halpern's review of critical thinking
(Halpern, 1998, p.452)**

Critical thinking skills	Disposition
<ul style="list-style-type: none"> • Memory skills • Thought and language skills • Deductive reasoning skills • Argument analysis skills • Skills in thinking as hypothesis testing • Likelihood and uncertainty critical thinking skills • Decision-making skills • Problem-solving skills • Skills for creative thinking 	<ul style="list-style-type: none"> • Willingness to plan • Flexibility (open-mindedness) • Persistence • Willingness to self-correct • Being mindful (metacognitive monitoring) • Consensus seeking

5.4.3. Paul's Model of Critical Thinking

Paul was a philosopher who worked on encouraging individuals to think about their thinking and beliefs (Paul, 1993). Accordingly, he defined critical thinking as “thinking about your thinking while you’re thinking in order to make your thinking better” (Paul, 2007) or “critical thinking is the art of analysing and evaluating thinking with a view to improving it” (Paul and Elder, 2007, p.4). His model of critical thinking developed over a number of years and the most recent one has four parts: “elements of reasoning, standards of critical thinking, intellectual abilities and intellectual traits” (Paul, 1993, p.20), “the first three parts focus on what is essential to critical thinking and the last one on what it is to be a critical thinker” (Moseley et al., 2004, p.32). Elements of reasoning are the basic structure of thought in human beings and, as Paul states, the ability to recognise these elements is crucial to critical thinking (Paul, 1993). The standards of critical thinking are the standards “which must be applied to thinking in order to check the quality of reasoning about a problem or issue” (Paul and Elder, 2007, p.5). The intellectual traits are the affective and moral dimensions of critical thinking as Paul calls them (Moseley et al., 2004). Table 4 shows the details of each part in Paul’s model of critical thinking.

It seems that, although Paul does not use the terms ‘meta-cognition’ and ‘disposition’, these elements of critical thinking are evident implicitly in the intellectual traits. For instance, “intellectual fair-mindedness” and “intellectual confidence in reason” can be described as dispositions. Furthermore, “intellectual integrity”, which means “recognition of the need to be true to one’s own thinking”, recognises the meta-cognitive skill of critical thinking (Paul and Elder, 2007, p.15). Even lower and higher levels of thinking skills are addressed in the same category of ‘elements of reasoning’ in this model. Therefore, although this is a well-known model of critical thinking and has been used in different studies, it is not the hierarchical one I need to distinguish the levels of thinking skills explicitly. Thus, as I mentioned the necessary categories in the framework of my study as being hierarchical in nature, in section 5.2, Paul’s model could not be used in this thesis.

Table 4: Different parts of critical thinking in Paul's model of critical thinking (Paul, 1993, p.21)

Elements of reasoning	Standards of critical thinking	Intellectual traits
<ul style="list-style-type: none"> • Problem or question at issue • Purpose • Point of view • Assumptions • Concepts • Information • Inferences • Implications and consequences 	<ul style="list-style-type: none"> • Clarity • Precision • Accuracy • Relevance • Breadth • Logicalness • Depth • Significance • Fairness • Completeness 	<ul style="list-style-type: none"> • Intellectual humility • Intellectual sense of justice • Intellectual perseverance • Intellectual fair-mindedness • Intellectual confidence in reason • Intellectual courage • Intellectual empathy • Intellectual autonomy • Intellectual integrity

Having reviewed all the frameworks of critical thinking explained in this section, I discovered that they are not the kinds of frameworks appropriate for the broad analysis of the integration of critical thinking in the RE curriculum and teacher's accounts of critical thinking.

Consequently, as stated earlier in section 5.2, I designed my own framework. The development of this framework was based on the Bloom's taxonomy and its revisions and I also made required amendments based on the critical thinking literature. Furthermore, I considered the skills and dispositions of critical thinking in the main frameworks of critical thinking explained in this section, to address the required aspects of the critical thinking framework for this research.

5.5. Developing the Framework of Critical Thinking in Religious Education

The exploration of different frameworks in sections 5.3 and 5.4, demonstrated the necessity of designing a new framework of critical thinking for my own research. I needed to develop an original and workable model of critical thinking which could be applied to RE curriculum documents to capture the similarities and differences of integration of critical thinking in those documents. This framework also needed to be useable in the analysis of RE teachers' understanding of critical thinking in two sectors, non-denominational and Roman Catholic schools, to compare their perspectives. In section 5.2 I briefly mentioned the crucial elements of this framework. In this section I argue for the general aspects of the framework as well as the particular elements I designed for each part.

From the examination of the definitions of critical thinking in Chapter 2 and the different frameworks, it can be seen that critical thinking consists of two key parts: critical thinking skills and its dispositions. A detailed description of the elements of critical thinking was given in Chapter 2. The skills of critical thinking are higher order skills (Halpern, 1998), rather than lower order skills. In addition, these higher order skills of critical thinking include two main hierarchical categories: *cognitive skills*, which are the prerequisite of *meta-cognitive skills* (Facione, 1992). As stated in section 5.2, lower level thinking skills are foundational to the process of applying higher level skills (Dwyer et al., 2014) such that lower level skills are the prerequisite for higher level ones. In addition, according to Moseley et al. (2005), the meta-cognitive skill is always highly

conscious and above other skills, in the sense that metacognitive thinking cannot occur unless there is information gathering or understanding and other cognitive skills of critical thinking. Consequently, I intended to design a hierarchical framework in which thinking skills were classified from lower to meta-cognitive skills. Moreover, I considered dispositions as the other significant element of critical thinking in my framework. As a result, the key aspects of my framework were:

1. Thinking skills:

- Lower level thinking skills
- Higher order skills or critical thinking skills:
 - Critical thinking cognitive skill
 - Critical thinking meta-cognitive skill

2. Dispositions

To expand the skills of each level in this general framework and the particular dispositions, I investigated the variety of frameworks mentioned in sections 5.3 and 5.4 and also the different definitions of critical thinking stated in Chapter 2. As there was no agreement on the skills and sub-skills in each category, and also it was found that some of them overlapped, I have used the following criteria for choosing the skills in each level. These thinking skills in each category were:

- broad enough to show the distinction between those categories and differences in integration of critical thinking in RE curriculum documents,
- simplified by focusing on major skills and putting aside minor details or sub-skills which make it difficult to find the different types of critical thinking in RE curriculum documents,
- core and common skills specified by the majority of scholars in their frameworks in each category, such that no serious disagreement is found on placing the skills in each category

Furthermore, as there was a variety of dispositions identified by different researchers as the dispositions of critical thinking, I also applied a commonality criterion among scholars to choose them for my framework. Therefore, the ones recognised by only some scholars as dispositions and ignored by others in their works were omitted. I merely kept

those ones agreed by majority of scholars, and expressed as dispositions in their definitions of critical thinking or in their frameworks of critical thinking.

In order to find appropriate skills and sub-skills in lower and higher level (cognitive) thinking skills in my framework, I selected Bloom's taxonomy and its revision as the starting point. The typical Bloom's taxonomy, or its main revised version by Anderson and Krathwohl (2001), includes six categories from the simplest to more complex levels. In the simplest form, Lee (2010) has regrouped the categories into lower level and higher level thinking skills. As all these six skills are cognitive ones, I also included another level of skills at the meta-cognitive level. This level, which could interact with and improve the lower and higher thinking skills at cognition levels, would be identified mostly in the frameworks of critical thinking. In addition to the frameworks of critical thinking, I used the Delphi Report, the two-year project by a panel of experts (Facione, 1992). As described in Chapter 2, this is the experts' consensus on the definition and elements of critical thinking, which I also considered in designing the framework of critical thinking.

In the following sections, I discuss the detailed elements selected for each part of the specific framework of critical thinking for my research.

5.5.1. Lower Level Thinking Skills

All the hierarchical frameworks of thinking skills described in section 5.3 include classification of lower order and higher order thinking. One of the skills in the lower level in those taxonomies is *knowledge* or *information gathering*, which is stated as the starting point in all these frameworks. Also the skill of *comprehension* or *understanding* which is labelled *building understanding* in Moseley et al. (2005), is the other common skill in this level of these frameworks. These two core skills were classified as the lower level of thinking skills, although they have been labelled differently by these scholars in their frameworks. Therefore, I classify these skills together as lower level thinking in comparison to other thinking skills, classified as higher order in my framework:

- Knowledge
 - Meaning: Obtaining information from memory or by observing, listening or reading (Moseley et al., 2005)

- Sub-skills: recognising, remembering and recalling knowledge (Anderson and Krathwohl, 2001)
- Understanding
 - Meaning: being able to elaborate and make use of what is known (Moseley et al., 2005)
 - Sub-skills: explaining, exemplifying, comparing and classifying (Anderson and Krathwohl, 2001)

5.5.2. Higher Order Skills: Critical Thinking Cognitive Skills

Bloom (1956) regards *analysis*, *synthesis* and *evaluation* as higher order thinking skills, though in Anderson and Krathwohl's view (2001) *analyse*, *evaluate* and *create* are in this category. I attempted to compare these skills to the cognitive skills of critical thinking identified in the Delphi report, and in the view of Ennis and Halpern. This was to discern which of these skills are accepted by the majority of key scholars to be the skills of critical thinking. According to the Delphi report, the cognitive skills of critical thinking are *interpretation*, *analysis*, *evaluation*, *inference* and *explanation* (Facione, 1992). Having compared these different skills to the skills of critical thinking in Tables 2 and 3, I came to the conclusion that there are no disagreements on identification of *analysis* and *evaluation* as the cognitive skills of critical thinking. *Analyse arguments* in Ennis's view, *argument analysis* in Halpern are similar to the skill of *analysis* in the Delphi report and in Bloom's taxonomy. In addition, *reasonably judge the credibility of a source* in Ennis and the skill of *hypothesis testing* in Halpern have the same meaning as *evaluation* in the Delphi report, and in Bloom's taxonomy and its revision. However, there are other skills in each of them (Ennis's taxonomy, Halpern's review and the Delphi report) which are not agreed by the rest to be the cognitive skills of critical thinking. Furthermore, as I described in section 2.7.2 in Chapter 2, the *synthesis* and *create* skills, stated in Bloom's taxonomy and Anderson and Krathwohl's revision, are the skills of creative thinking which is different from critical thinking. Therefore, I excluded them from the framework of critical thinking. I selected only 'analysis' and 'evaluation', which are agreed in all these frameworks and definitions to be the higher order cognitive skills of critical thinking. Thus this level of my framework consists of:

- Analysis
 - Meaning: to identify the relationship among statements or concepts intended to express reasons, beliefs, information or opinions
 - Sub-skills: examining ideas, detecting arguments and analysing arguments (Facione, 1992)
- Evaluation
 - Meaning: to assess the credibility of statements and the logical strength of the relationships among statements (Facione, 1992)
 - Sub-skills: assessing claims, assessing arguments (ibid.)

5.5.3. Higher Order Skills: Critical Thinking Meta-Cognitive Skills

Although meta-cognition is simply used by some researchers as “thinking about thinking to improve our thinking” (Paul, 2007, p.50), following Moseley et al., meta-cognition involves an awareness of one’s own cognitive functioning and also planning, monitoring and evaluation of one’s thinking (Moseley et al., 2005). This can be found as a separate category in Moseley et al.’s framework, referred to as *strategic and reflective thinking*, (Moseley et al., 2005), although it is not introduced as an element of critical thinking. Additionally, the meta-cognitive skill of critical thinking identified in the Delphi report is *self-regulation* (Facione, 1992). For Facione, the most important part of critical thinking is self-regulation, which is involved in improving the thinking process and monitors one’s cognitive activities and aims to correct one’s reasoning and results (Facione, 1992). Ennis also defines this kind of skill as *monitor their own thinking* in his taxonomy (2011). It seems that the meta-cognitive skill has the same meaning in the views of different researchers, although they have used different terms in their frameworks. Among all the above frameworks in which meta-cognitive skill is found explicitly, the terms defined by the Delphi report for the meta-cognitive skill and its sub-skills appear to be the most complete ones to cover this level of my framework. Hence, the meta-cognitive skill of critical thinking in my framework is:

- Self-regulation
 - Meaning: self-consciously monitoring one’s thinking, reflecting on one’s own reasoning and correcting either one’s reasoning or one’s results (Facione, 1992)
 - Sub-skills: self-examination, self-correction (ibid.).

5.5.4. Dispositions

Based on the all different definitions of critical thinking, dispositions are attitudes toward the critical thinking skills in addition to abilities or skills of critical thinking. In other words, one cannot be a critical thinker only by having its skills but also needs to have willingness or motivation to practice them. Therefore, dispositions are one of the main elements of critical thinking to be considered in developing the frameworks of critical thinking. I explored the dispositions identified in the Delphi report, as well as in two frameworks of critical thinking which describe them in detail, Ennis's taxonomy and Halpern's review of critical thinking. Moreover, some dispositions to be taken into account can also be identified in Paul's model of critical thinking.

Ennis's taxonomy consists of three main dispositions with sub-categories (see Table 2), whereas in Halpern's review of critical thinking (see Table 3), only the general dispositions without any details as sub-categories are found. Additionally, according to the expert consensus in the Delphi report, the affective dispositions of critical thinking are:

- * Inquisitiveness with regard to a wide range of issues,
- * Concern to become and remain generally well-informed,
- * Alertness to opportunities to use critical thinking,
- * Trust in the processes of reasoned inquiry,
- * Self-confidence in one's own ability to reason,
- * Open-mindedness regarding divergent world views,
- * Flexibility in considering alternatives and opinions,
- * Understanding of the opinions of other people,
- * Fair-mindedness in appraising reasoning,
- * Honesty in facing one's own biases, prejudices, stereotypes, egocentric or socio-centric tendencies,
- * Prudence in suspending, making or altering judgments,
- * Willingness to reconsider and revise views, where honest reflection suggests that change is warranted (Facione, 1990, p.25).

In order to select the appropriate dispositions for my model, I compared all the above dispositions with those identified in Ennis, Halpern and Paul views to find those considered by majority of them as dispositions of critical thinking. Many of them are only defined by different words but with the same meaning in different frameworks.

For instance, “Seek alternative hypotheses, explanations, conclusions, plans, sources, etc., and be open to them” and “Consider seriously points of view other than their own” in Ennis’s taxonomy (2011, p.6) are similar to “flexibility (open-mindedness)” in Halpern (1998, p.452). They are also compatible to “inquisitiveness with regard to a wide range of issues”, “open-mindedness regarding divergent world views” and “flexibility in considering alternatives and opinions” in the Delphi report (Facione, 1992, p.9). Therefore, I fitted them to one including all these similar dispositions, which is *inquisitiveness and open-mindedness (flexibility) regarding alternatives and divergent opinions*.

Another common disposition, in Halpern’s view (1998, p.452), is “willingness to self-correct”, which has the same meaning as “willingness to reconsider and revise one’s own views”, in the Delphi report (Facione, 1992, p.9). Furthermore, Ennis expressed it differently as “be reflectively aware of their own basic beliefs” (2011, p.6); however this is congruent with the other meanings. Hence, another disposition in this framework is *willingness to reconsider and revise one’s own views*.

Also ‘honesty’, ‘being self-confident in reasoning’ and ‘fair-minded in assessing the reasons’ are dispositions stated by Ennis, Paul and other scholars in Delphi report which I considered as dispositions in my framework. Therefore, I have chosen the following dispositions:

- Inquisitiveness and open-mindedness (flexibility) regarding alternatives and divergent opinions
- Willingness to reconsider and revise one’s own views
- Fair-mindedness in appraising reasoning
- Self-confidence in one’s own ability to reason
- Honesty in facing one’s own biases and prejudices

All the elements and their details in each part of this comprehensive framework are listed in Table 5. Figure 1 also illustrates the sequences of each element and the relation between them in this hierarchical framework. According to this figure the framework consists of two parts; lower order thinking skills and elements of critical thinking. The arrow between these two parts shows that lower order skills are the prerequisites of cognitive skills of critical thinking. In addition, the second part of the framework covers

two levels of critical thinking skills: cognitive and meta-cognitive, and its dispositions. As described in section 5.5.3, meta-cognitive skills, as the highest level of skills in this framework of critical thinking, are dependent on the cognitive skills. Another element of critical thinking considered in the second part of framework is disposition, such that critical thinking skills may not be developed without these attitudes towards critical thinking. Thus the skills of critical thinking and its dispositions have a mutual relationship with each other.

However, this is a provisional framework and the details of this suggested framework were slightly revised during its application in my research, according to other findings of the study. The modified version and the revision process are explained in Chapter 8 of this study.

Table 5: The elements in the framework of critical thinking

Thinking skills (and Sub-skills)		Dispositions
Lower order thinking skills	<ul style="list-style-type: none"> • Knowledge: recognising, remembering, recalling knowledge • Understanding: explaining, exemplifying, comparing, classifying 	<ul style="list-style-type: none"> • Inquisitiveness and open-mindedness (flexibility) regarding alternatives and divergent opinions • Willingness to reconsider and revise one's own views • Fair-mindedness in appraising reasoning • Self-confidence in one's own ability to reason • Honesty in facing one's own biases and prejudices
Higher order or critical thinking skills	Cognitive skills of Critical thinking	
	<ul style="list-style-type: none"> • Analysis: examining ideas, detecting arguments and analysing arguments • Evaluation: assessing claims, assessing arguments 	
	Meta-cognitive skills of Critical thinking	
	<ul style="list-style-type: none"> • Self-regulation: self-examination, self-correction 	

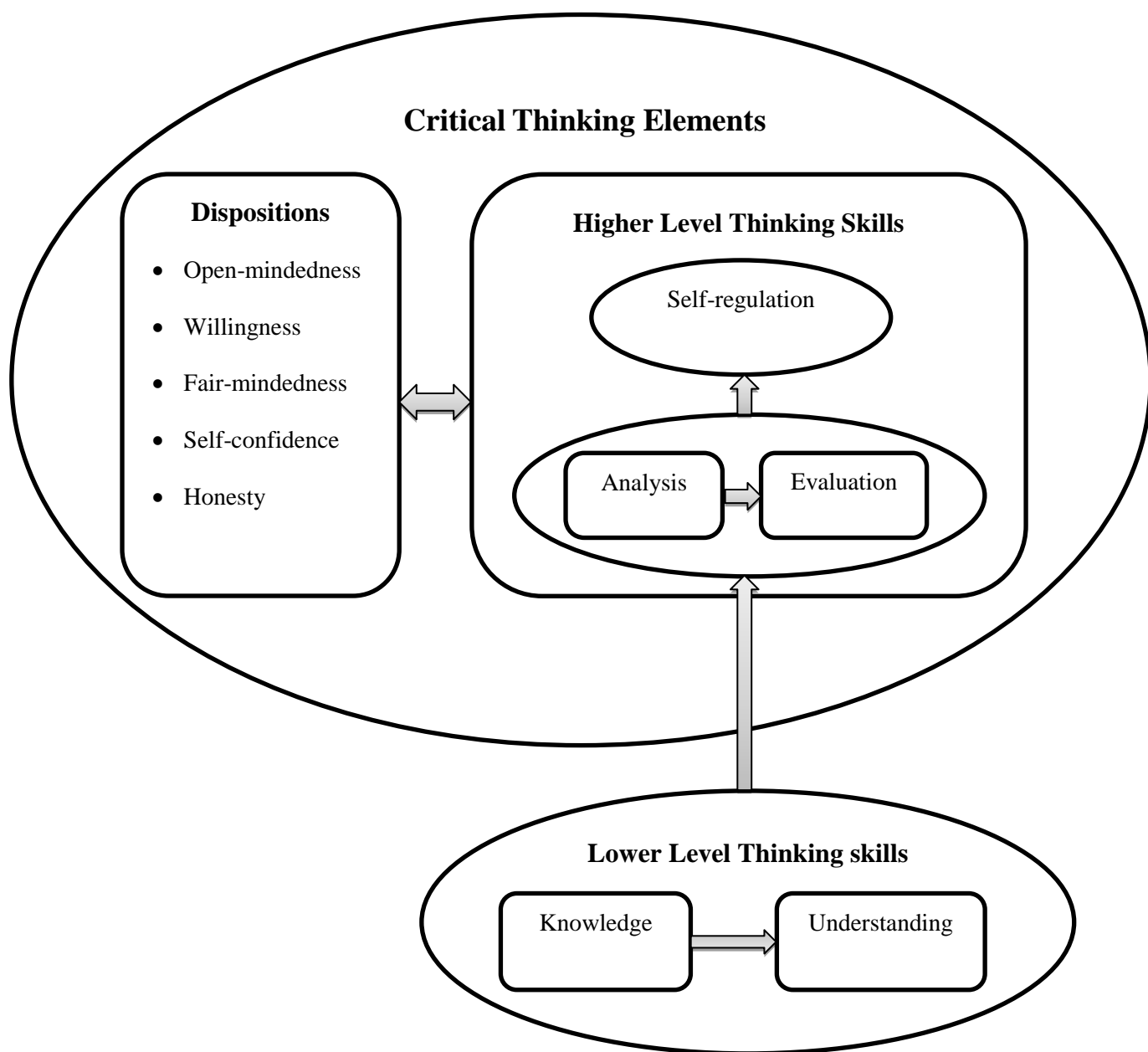


Figure 1 : The hierarchical framework of critical thinking designed in this study

5.6. Refinement of the Framework

One of the crucial results of this study is the development of this framework of critical thinking to be applied to religious education. The next stage of this study was applying this framework to RE curriculum documents and teachers' understanding of critical thinking in non-denominational and Roman Catholic schools. Additionally, this framework was used to guide the analysis of RE policy documents in the two sectors, to discover different types of critical thinking embedded in those documents. However, as can be seen in Table 5 this is a general framework, which can be applied not only in religious education but also in all different curriculum areas. As mentioned in Chapter 4, I piloted the framework to test its workability and also to refine it, if necessary. After conducting the pilot interviews with two RE teachers, one in a non-denominational and one in a Roman Catholic school, I analysed a sample of RE policy documents based on the framework developed in this chapter. Analysis of the pilot data demonstrated the workability of the framework and also indicated no necessary changes at that stage. However, I slightly refined the framework following the analysis of the main study data (reported in Chapters 6 and 7), to provide an original framework of critical thinking in religious education. The details of its revision will be discussed in Chapter 8 of the thesis.

5.7. Conclusion

This chapter initially argued the necessity of designing a new framework of critical thinking for this study and its essential elements, based on the literature of critical thinking and aim of the study (which is analysing RE curriculum documents and teachers' perception of critical thinking). In order to clarify the reasons for not using the existing frameworks of critical thinking, the advantages and disadvantages of applying well-known frameworks of thinking skills and critical thinking were investigated, based on the purpose of study. The main taxonomies and frameworks of thinking skills reviewed were Bloom's taxonomy, Anderson and Krathwohl's revision of Bloom's taxonomy and Moseley et al.'s framework. The most-cited frameworks of critical thinking investigated in this chapter were Ennis' taxonomy, Halpern's review of critical thinking and Paul's model of critical thinking. Having explored these frameworks, I considered which of their details and elements were helpful in

designing a new framework in this research. The hierarchical features and elements of this framework, which include the lower level thinking skills, higher level cognitive, meta-cognitive skills, and dispositions, were then discussed, together with their relations and the way they were designed. Table 5 shows the particular skills and dispositions selected as the elements of this conceptual framework of critical thinking. In addition, Figure 1 shows the hierarchical levels and the relation between these different elements within this framework. In the next chapter this framework is applied to curriculum documents of religious education in both non-denominational and Roman Catholic sectors to identify the similarities and differences in the integration of critical thinking into these documents. In Chapter 7, this framework is then used as a basis to analyse and compare the RE teachers' perceptions of critical thinking in each of the two sectors.

Chapter 6: Critical thinking in Curriculum Documents of Religious Education in Non-denominational and Roman Catholic Sectors

6.1. Introduction

This chapter reports the findings of the analysis of the national curriculum documents shaping religious education in Scotland. Firstly, I introduce these curriculum documents in this section. Then I investigate briefly the presence of critical thinking in the eight main curriculum areas in Scotland as mentioned in *Curriculum for Excellence*. Religious education is the curriculum area which needs to be considered in depth and comprehensively in this research. Therefore, the curriculum documents related to religious education are explored in terms of the critical thinking identified in the framework in Chapter 5. The national religious education documents for non-denominational and Roman Catholic schools in Scotland are:

- *Curriculum for Excellence*, Religious and Moral Education:
 - Principles and Practice
 - Experiences and Outcomes
- *Curriculum for Excellence*, Religious Education in Roman Catholic schools:
 - Principles and Practice
 - Experiences and Outcomes

Furthermore, the RERC documents of *Curriculum for Excellence* should be understood in combination with a recent key document called ‘*This is our Faith*’ which is a supplementary guidance document provided by the Scottish Catholic Education Service (SCES) (Education Scotland, 2015c). As this document is a crucial and specific one for religious education in Roman Catholic schools, this is also analysed based on the framework of critical thinking.

The exploration of these documents is undertaken to discover whether there are different types of critical thinking evident in the religious education documents for each kind of school, both non-denominational and Roman Catholic. Finally, I compare the types of critical thinking in those documents in order to find any

similarities and differences regarding critical thinking, which will enable me to respond to the second research question:

‘What types of critical thinking are evident in relevant national policy documents of religious education?’

Two methods of analysis were used to analyse the RE documents:

1. Content analysis of documents

This method is to look for the term ‘critical thinking’ and the elements of critical thinking, as identified in the framework of critical thinking developed in Chapter 5, which are explicitly or implicitly found in these documents. The process of ‘content analysis’ is described in detail in the methodology part in Chapter 4. The aim of this analysis is to reveal whether the documents emphasise critical thinking or any specific elements of it, and if so, to what extent and in what ways. Moreover, the analysis aims to investigate whether the term critical thinking had been clearly defined in these documents and whether and to what extent the approach to developing critical thinking in pupils through ‘Religious Education’ is made explicit.

2. Thematic analysis of documents

The other kind of analysis is thematic analysis, which aims to extract the approaches to critical thinking found in each document and compares these approaches. Thus, I use thematic analysis to identify different themes which help to identify the approaches to critical thinking in those religious education documents.

6.2. Critical Thinking in the ‘Curriculum for Excellence’ Document

Curriculum for Excellence is a broad curriculum in which a variety of educational issues are covered, such that analysis of the whole document is not necessary. In order to uncover whether and in what ways critical thinking is evident in *Curriculum for Excellence*, I searched for the term ‘critical thinking’ in different subject areas in *Curriculum for Excellence*. I also reviewed the achievement of learning and teaching in eight curriculum areas in order to explore critical thinking and its elements in *Curriculum for Excellence* in detail. These curriculum areas are:

- Expressive arts
- Health and wellbeing

- Languages
- Mathematics
- Religious and moral education
- Science
- Social studies
- Technologies

There are explicit mentions of critical thinking and its skills in achievement of learning and teaching in all of these curriculum areas:

- Expressive arts: "...they can be encouraged to develop their powers of observation, personal response, *critical analysis*, *evaluation*, and communication (Scottish Executive, 2006, p.7).
- Health and wellbeing: "Personalisation, *critical thinking*, active learning and ... should be features of the learning and teaching in health and wellbeing programmes" (ibid., p.10).
- Language: "Learning through the languages area of the curriculum enables children and young people to... use creative and *critical thinking* to synthesise ideas and arguments" (ibid., p.13).
- Religious and moral education: "Learning through religious and moral education enables children and young people to...develop the skills of reflection, discernment, *critical thinking*" (ibid., p.22).
- Science: "Through first-hand observation, practical activities and discussion children and young people will develop a range of *critical thinking* skills including analysis and evaluation of data" (Scottish Executive, 2006, p.31).
- Social studies: "Learning through social studies enables children and young people to...develop the capacity for *critical thinking*, through accessing, analysing and using information" (ibid., p.34).

- Technologies: “Learning through technologies enables children and young people to *evaluate* technological processes and products critically and constructively...they begin to *think critically* and *evaluate* processes and products...” (ibid., p.38).

It seems that the general idea of critical thinking has been introduced as an aim of learning and teaching in all curriculum areas. However, any specific skills and dispositions of critical thinking it refers to could not be found in any part of *Curriculum for Excellence*. The Science subject area is an exception, in which the cognitive skills of “evaluation” and “analysis” are presented as the skills of critical thinking. Moreover, although the concept of critical thinking is mentioned on several occasions and in different subject areas, it is not clearly defined at any point. Therefore, to the best of my knowledge and understanding, the exact definition of critical thinking from the *Curriculum for Excellence* documents analysed is difficult to discern.

As in this study, among all curriculum areas mentioned above the focus is in religious education, the RE documents of *Curriculum for Excellence* regarding critical thinking are analysed in next section.

6.3. Critical Thinking in the RME and RERC Documents in ‘Curriculum for Excellence’

As listed in section 6.1, there are two key documents for Religious and Moral Education (RME) in non-denominational schools in *Curriculum for Excellence*. These documents are ‘*Principles and Practice*’ (Education Scotland, 2015a) and ‘*Experiences and Outcomes*’ (Education Scotland, 2015b). As with the RME documents in *Curriculum for Excellence*, there are two Religious Education in Roman Catholic schools (RERC) documents in Scotland, with the same titles; ‘*Principles and Practice*’ (Education Scotland, 2015c), ‘*Experiences and Outcomes*’ (Education Scotland, 2015d).

In each case, the first document, *Principles and Practice*, sets out the aspects of learning and teaching religious education and also the features of its assessment for

teachers (Education Scotland, 2015a, 2015c). The second document, entitled *Experiences and Outcomes* consists of learning experiences and outcomes for the study of beliefs, values, practices and traditions in Christianity and world religions in each stage, listed in separate tables in detail (Education Scotland, 2015b, 2015d). The stages and levels in this document are:

<u>Level</u>	<u>Stage</u>
Early	The pre-school years and P1, or later for some.
First	To the end of P4, but earlier or later for some.
Second	To the end of P7, but earlier or later for some.
Third and Fourth	S1 to S3, but earlier for some. The fourth level broadly equates to SCQF level 4.
Senior phase	S4 to S6, and college or other means of study (Curriculum for Excellence, 2015, p.4).

The senior phase curriculum builds on the experiences and outcomes pupils have experienced and achieved to the end of S3 (ibid.). Therefore, there are no specific experiences and outcomes of S4 in *Curriculum for Excellence*. Thus, this study aims to investigate religious education in the S3 stage: only the fourth levels of experiences and outcomes will be the focus of the investigation.

In this section I aim to investigate the integration of critical thinking in these four documents, based on the framework of critical thinking. Thus, firstly the lower levels of thinking skills are identified in the documents and then the use of the term ‘critical thinking’ and also the elements of critical thinking, including its skills and dispositions, are explored. This investigation also provides the opportunity to compare the use of the term critical thinking in the RE documents of non-denominational and Roman Catholic schools.

6.3.1. Lower Level Thinking Skills in RME and RERC Documents

One of the elements in the framework of critical thinking in this research is lower level thinking skills. These types of thinking skills are stated at the lower level in the framework, in comparison with critical thinking skills, which are the higher level

thinking skills. Looking for lower level thinking skills and sub-skills in RME and RERC documents reveals whether these skills are mentioned in those documents and how often. Counting the number of lower level thinking skills and sub-skills gives us two types of frequencies; less than 10, which is shown by its number, and more than 10. Table 6 illustrates one typical example of each lower level thinking skill and sub-skill and also its frequency in the documents.

As stated in the framework of critical thinking in Chapter 5, the main lower level thinking skills are ‘knowledge’ and ‘understanding’ and there are also a variety of lower level sub-skills such as ‘recognising’ ‘describing’, ‘expressing’ and ‘explaining’. In addition, ‘reflection’ might be evident in RE documents as a lower level sub-skill, which is described in section 6.4.3.

Analysis of RME and RERC documents reveals a large number of lower level thinking skills and particularly sub-skills in those four RE documents (illustrated in Table 6). One of the significant incidences of ‘knowledge’ and ‘understanding’ in the ‘*Principles and Practice*’ of RME is the introduction of these skills as the essential elements in ‘personal search’ (Education Scotland, 2015a). Further explanation of ‘personal search’ and the role of these skills in this process are provided in section 6.7.2.

In the *Experiences and Outcomes* of both RME and RERC documents the fourth level outcomes, which are referred to S3 stage, are considered. One of the main points noticed in these documents is that the majority of skills applied in the fourth level are lower level thinking skills and sub-skills, showing that in S3 level pupils are expected to be more engaged in lower level thinking skills rather than the higher ones. To discover whether this is specific to RE or if it is the same in other curriculum areas, I carried out a review of experiences and outcomes at the fourth level in other subject areas in *Curriculum for Excellence*. Having examined the experiences and outcomes of 7 other curriculum areas mentioned in section 6.2, I found similar results in 6 of them: expressive arts, health and wellbeing, languages, mathematics, science and technologies. The majority of skills in the fourth level of these subjects are lower level thinking skills. However, there is an exception in social studies, in which I could discover a large number of higher order thinking skills, greater than the number of

lower ones, in its experiences and outcomes. I will offer an explanation of these points after analysing the RE documents regarding the elements of critical thinking and comparing these documents in section 6.4.

Table 6: Examples of lower level thinking skills and sub-skills and their frequencies in RME and RERC documents of ‘Curriculum for Excellence’

<div>Documents</div> <div>Lower level thinking skills and sub-skills</div>	Principles and Practice of RME	Experiences and Outcomes of RME	Principles and Practice of RERC	Experiences and Outcomes of RERC
Knowledge and Understanding	Knowledge and understanding are essential elements of this personal reflection and exploration but they are not its only components (Education Scotland, 2012a, p.3)	I can apply my developing understanding of morality to consider a range of moral dilemmas... (Education Scotland, 2012b, p.6)	Learning through religious education enables children and young people to develop their knowledge and deepen their understanding of the Catholic faith (Education Scotland, 2012c, p.2)	I know a number of traditional Catholic prayers and I have developed an understanding of the meaning of these prayers (Education Scotland, 2012d, p.9)
Frequency	Knowledge (7) Understanding more than 10	Knowledge (0) Understanding (5)	Knowledge (5) Understanding more than 10	Knowledge (2) Understanding more than 10
Lower level sub-skills	Learning through religious and moral education enables children and young people to ...recognise religion as an important expression of human experience (Education Scotland, 2012a, p.1)	I can explain the contribution of Christian beliefs to the development of Scotland now and in the past (Education Scotland, 2012b, p.2)	Within this ethos learners... are asked to describe and explain their responses and how this may affect their own life (Education Scotland, 2012c, p.3)	I can describe the place of religious practice in Scotland and in the contemporary world at large (Education Scotland, 2012d, p.14)
Frequency	More than 10	More than 10	More than 10	More than 10

6.3.2. The Use of the Term ‘Critical Thinking’ in RME and RERC Documents

In order to gain a better understanding of how the term critical thinking is being used and what it might signify, I classified the incidences of ‘critical thinking’ in the *Principles and Practice* and *Experiences and Outcomes* documents. The main themes which emerged in the RME documents are set out below:

- *Critical thinking skills as a crucial element in learning about and from religion*
- *Critical thinking development as an aim of learning RME*
- *Critical thinking development as a duty of teachers in teaching RME*
- *Critical thinking development as a feature of RME assessment*
- *Critical thinking as a tool for exploring beliefs, values and traditions*

The themes which emerged from the incidences of critical thinking in RERC documents are:

- *Critical thinking development as an aim of learning RE*
- *Critical thinking development as a duty of teachers in teaching RE*
- *Critical thinking development as a feature of RE assessment*

Table 7 demonstrates which of the above themes of critical thinking are evident in each document, along with an example of those themes from each of the four documents.

Table 7: Examples of critical thinking themes evident in RME and RERC documents of Curriculum for Excellence

Documents Critical thinking themes	Principles and Practice of RME	Experiences and Outcomes of RME	Principles and Practice of RERC	Experiences and Outcomes of RERC
Crucial element in learning about and from religion	There is an intrinsic value in learning about religion as well as learning from religion...the skills of reflection and critical thinking... are all crucial in assisting in this process (Education Scotland, 2015a, p.1)	-----	-----	-----
An aim of learning RE	Learning through religious and moral education enables children and young people to... develop the skills of reflection, discernment and critical thinking... (Education Scotland, 2015a, p.1)	-----	Learning through religious education enables children and young people to...develop the skills of reflection, discernment, critical thinking... (Education Scotland, 2015c, p.2)	-----
A duty of teachers in teaching RE	In planning learning and teaching in religious and moral education, teachers will be able to: encourage the development of enquiry and critical thinking skills (Education Scotland, 2015a, p.2)	-----	Such dynamic experiences of learning and teaching will be achieved where teachers in their planning seek to...help children and young people to develop critical thinking skills (Education Scotland, 2015c, p.3)	-----
A feature of RE assessment	Children and young people can demonstrate their progress through... their developing abilities to think critically (Education Scotland, 2015a, p.4)	-----	They can demonstrate progress through their abilities in analysing, evaluating ...and through their developing abilities to think critically (Education Scotland, 2015c, p.4)	-----
A tool for exploring beliefs, values and traditions	-----	I can apply philosophical enquiry... [In appendix it has been explained that] Philosophical enquiry involves exploring beliefs, values, practices and traditions through critical thinking, reflection and analysis (Education Scotland, 2015b, p.11)	-----	-----

As can be seen, the three themes of critical thinking in RERC documents are common to the themes in the RME documents and all are in the *Principles and Practice* of both RME and RERC. But there are two other themes identified in the RME documents which are not found in the RERC ones. One of these specific themes in *Principles and Practice* of RME is ‘critical thinking as a crucial element in learning about and from religion’. One explanation of this difference would be that learning about and from religion is a process only practised in RME. In RERC, learning both about and from Catholic Christianity is considered, but due to the time limitation, only learning about other world religions could be found. Therefore, highlighting critical thinking in this process would be found only in RME.

The second theme which signals the difference in the evidence of the term critical thinking in RME and RERC, is regarding critical thinking in philosophical enquiry as a tool for exploring beliefs, values and traditions. This theme is the only evidence of critical thinking in *Experiences and Outcomes* of RME; however, it appears in only the appendix of this document to describe philosophical enquiry. In comparison, the term critical thinking was not found in the *Experiences and Outcomes* of RERC. This may be due to this supposition that RME covers all religions and non-religious worldviews but RE in the Roman Catholic sector only focuses on Catholic Christianity. Thus, there could be an imbalance in applying critical thinking, particularly based on the *Experiences and Outcomes* documents of RME and RERC.

As illustrated in Table 7, there are several incidences of the term critical thinking in the analysis of these documents for explicit mentions of critical thinking. However, critical thinking is not defined anywhere in these documents or elsewhere in the *Curriculum for Excellence* policies and documentation. According to the literature of critical thinking reviewed in Chapter 2 of this research, there is a wide range of definitions of critical thinking and consequently a variety of possible meanings. Without any guidance to the reader as to which of the many possible definitions was being used, it seems likely that the teachers who are in charge of implementing these documents may remain unclear about what exactly critical thinking is in the context of *Curriculum for Excellence*. The interviews with RE teachers also confirmed this finding, which is further discussed in section 7.6 of Chapter 7.

6.3.3. Elements of Critical Thinking in RME and RERC Documents

In addition to searching for the term ‘critical thinking’, I looked for the elements of critical thinking, based on the framework designed in Chapter 5, in RME and RERC documents. This search was carried out to identify and analyse the exact terms for higher order skills and dispositions and also words which allude to these elements of critical thinking without explicitly stating them. One example of these words is *reflection*, which is discussed in this section. Moreover, the frequency of their appearance and their importance in those documents will be discussed in this section.

The incidences of higher order cognitive skills of critical thinking in comparison to those of the lower level thinking skills, reported in section 6.3.1, are low. The higher level skills, analysis and evaluation, appear only once or twice in each of the four RME and RERC documents. In addition, in *Experiences and Outcomes* of RME and RERC, the cognitive skills appear once or twice in the outcomes of the fourth level. While both the higher order cognitive skills of critical thinking, analysis and evaluation, are explicitly evident in the *Principles and Practice* of the RERC document, they are not identified as skills of critical thinking. There will be more explanation of the presence of elements of critical thinking in these documents in the next section.

Looking for the meta-cognitive skills of critical thinking shows that although there are only two explicit incidences of self-evaluation as a meta-cognitive skill of critical thinking, there are implicit references to this skill under the name of *reflection*. By investigating the way in which *reflection* is frequently used in RE documents, it can be discerned that *reflection* has different meanings according to the context:

1. As a lower level thinking skill. Meaning as ‘Considering or thinking carefully about something which results in understanding’¹:

“Having reflected upon Christian sources, I can explain some key Christian beliefs about God...” (Education Scotland, 2015b, p.2).

2. As a meta-cognitive skill:

¹ <http://www.dictionary.com/>

“...engage in the development of and reflection upon their own moral values” (Education Scotland, 2015a, p.1).

“I am able to reflect upon my own responses to the challenges and opportunities by religious and cultural diversity...” (Education Scotland, 2015b, p.4).

3. As an important skill alongside critical thinking without pointing to its meaning:

“The skill of reflection and critical thinking and an enhanced understanding of the beliefs and values of others are all crucial in assisting in this process” (Education Scotland, 2015a, p.1).

“Learning through religious and moral education enables children and young people to...develop the skill of reflection, discernment, critical thinking ...” (ibid., p.1).

The majority of the incidences of *reflection* in all four RE documents, particularly in the *Experiences and Outcomes* documents, refer to lower level thinking skills. In addition, the use of *reflection* in the third set of examples stated above does not lend to easy analysis, as the exact meanings of the examples are not clear. There is a comparison of these RE documents regarding the elements of critical thinking in section 6.4.

Another significant element of critical thinking is its dispositions. The analysis of documents revealed a new kind of disposition, repeated frequently in all RE documents but not included in the framework developed in this study. I call this disposition ‘respectfulness in facing divergent beliefs’. Referring to the literature and researching different elements of critical thinking shows little evidence of ‘respectfulness’ as a disposition of critical thinking. While Bailin et al. (1999) point to ‘respect for reason and truth’ as the disposition of critical thinking, it is not considered in the most cited definitions by well-known scholars as a disposition of critical thinking. Therefore, it seems that this disposition, which is repeated frequently in all four RE documents, is a relevant disposition of critical thinking in religious education. Therefore, one of the key findings of this study is identifying this commonly used disposition from the analysis of RE documents. Moreover, as will be discussed in the discussion chapter, ‘respectfulness’ could be added to our general framework of

critical thinking to design a particular framework of critical thinking in religious education subject area.

The Table 8 shows whether the elements of critical thinking are explicitly or implicitly evident in RME and RERC documents and how frequent they are. Additionally, typical examples of incidences of elements of critical thinking in these four RE documents are given in this table.

Table 8: Examples of critical thinking elements and their frequencies in RME and RERC documents of ‘Curriculum for Excellence’

Documents Elements of critical thinking	RME Principles and Practice	RME Experiences and Outcomes	RERC Principles and Practice	RERC Experiences and Outcomes
Cognitive skills	Learning through religious and moral education enables children and young people to...develop their beliefs ... through reflection, discovery and critical evaluation (Education Scotland, 2015a, p.1)	I am able to offer a basic analysis of the origins and development of beliefs and morality (Education Scotland, 2015b, p.9)	They can demonstrate progress through their abilities in analysing, evaluating ... (Education Scotland, 2015c, p.4)	I can describe and evaluate different beliefs about human nature and destiny... (Education Scotland, 2015d, p.13)
Frequency	Analysis (0), Evaluation (1)	Analysis (1), Evaluation (0)	Analysis (2), Evaluation (2)	Analysis (0), Evaluation (2)
Meta-cognitive skill	The context of study should encourage the development of a child or young person’s own beliefs and values... (Education Scotland, 2015a, p.3)	I am able to reflect upon my own responses to the challenges and opportunities offered by religious and cultural diversity... (Education Scotland, 2015b, p.4)	Teaches in their planning seek to... engage learners in the assessment of their own learning (Education Scotland, 2015c, p.3) Approaches to assessment will take account of...each child and young person’s responses (for example through self-evaluation) ... (Education Scotland, 2015c, p.4)	I have reflected on and can describe my sense of vocation in life (Education Scotland, 2015d, p.3)
Frequency	Reflection (5)	Reflection (2)	Reflection (5) Self-evaluation (2)	Reflection (1)
Disposition	Children and young people can demonstrate their progress through...show[ing] respect for those who hold different beliefs (Education Scotland, 2015a, P.4)	I am developing respect for others and my understanding of their beliefs and values (Education Scotland, 2015b, p.8)	In Roman Catholic schools, it will build on the openness of Catholic schools to other young people regardless of denominations and faiths (Education Scotland, 2015c, p.1) ...children and young people will also learn respect for and understanding of other Christian traditions (Education Scotland, 2015c, p.2)	I have developed my understanding of them and my respect for people of other faiths (Education Scotland, 2015d, p.14)
Frequency	Respectfulness (3) Open-mindedness (1)	Respectfulness (1)	Respectfulness (6) open-mindedness (1)	Respectfulness (1)

6.4. Comparison of RME and RERC Documents Based on Integration of Critical Thinking

I have compared RME documents with the analogous RERC documents to investigate both the similarities and differences in usage based on incidences of the lower level thinking skills and the elements of critical thinking in the framework. The comparison is to discover the similarities and differences between the *Principles and Practice* and *Experiences and Outcomes* documents in non-denominational and Roman Catholic schools, in terms of the ways in which critical thinking and its elements are referred to, either explicitly or implicitly, and also their frequencies.

Table 9 compares these four documents in terms of all the elements of the framework of critical thinking evident in them. Generally, all levels of thinking skills, from lower to meta-cognitive skills, and also dispositions are identified in all four documents. However, the lower level thinking skills are repeated frequently in those documents and their numbers are higher than those of the cognitive or meta-cognitive critical thinking skills. The use of the term critical thinking in the above documents has also been compared and discussed in section 6.3.2.

To find the similarities and differences precisely, I compared the *Principles and Practice* of RME and RERC and the *Experiences and Outcomes* documents separately. According to this table, the emphasis is on the lower level skills in *Principles and Practice* of both RME and RERC. In addition, the term critical thinking is used in both documents almost in the same way, as explained in more detail in section 6.3.2 above. One of the differences found here is that the elements of critical thinking, its skills and dispositions, in *Principles and Practice* of RERC are more evident than in RME. However, as the differences in the number of these elements are not very many, there might be no meaningful difference between the focus on developing critical thinking in the two documents. The comprehensive result might be obtained after analysing the *This is our faith* document and comparing all the documents together in section 6.6.

Table 9: Comparison of the number of elements of the framework evident in RME and RERC documents

<div>Documents</div> <div>Elements of framework</div>	RME		RERC	
	Principles and Practice	Experiences and Outcomes	Principles and Practice	Experiences and Outcomes
Lower level skills	> 10	> 10	> 10	> 10
Term ‘Critical thinking’	4	1	3	0
Higher level Cognitive skills	1	1	4	2
Higher level Meta-cognitive skills	5	2	7	1
Disposition	4	1	7	1

One of the key results of the comparison is discerning the similarity in the *Experiences and Outcomes* of RME and RERC. All elements shown in Table 9 are more or less similarly evident in both documents. However, in both of them only some of the skills in the fourth level of outcomes are higher level and the majority are lower level skills. As explained in section 6.3.1, this is the same in the outcomes of the fourth level in other subject areas as well, except in social studies. Therefore, it seems that there might be no pressure on pupils in the S3 stage to be involved in higher level of thinking skills across the whole curriculum. However, they are expected to become ready for the National Exams at the end of S4 and Highers in S5, in which they are expected to apply higher level thinking skills throughout the lessons.

The explanation for the exemption of ‘social studies’ might be the nature of this subject, which cannot be learnt without involving pupils naturally in higher level thinking skills. However, I would argue that ‘religious education’ could be a specific subject for critical thinking as well. This is also highlighted by the majority of RE teachers interviewed (described in section 7.4.5). They believed that critical thinking is inherently a big part of RE, because of the nature of particular issues in RE. In their view, because RE is dealing with moral issues and beliefs, critical thinking is expressed in RE more explicitly than in other subject areas. Thus teaching ‘religious education’ with the stress on only lower level skills, could make it a less engaging subject for pupils, such that they are not motivated to take it as an optional subject in the higher levels of secondary schools.

An important finding from the document analysis is that in these documents teachers are positioned as occupying a significant role in presenting and developing critical thinking in RME and RERC. However, there is no detailed explanation of the critical thinking skills and how the teachers could develop them through RME. As a result, if the meanings of critical thinking and its elements in these documents are not obvious to teachers, it would be difficult for them to implement the policy.

The paired documents, *Experiences and Outcomes* and *Principles and Practice*, in the two sectors are more or less similar regarding the evidence of the term critical thinking and its elements within them. What makes a difference is that the context of these documents in which critical thinking appears is different. This difference and how it

signals diversity in understanding of critical thinking in these documents is discussed in the thematic analysis of documents in section 6.7.

Furthermore, there will be an overall comparison of the RME documents of non-denominational schools with those of RERC and the *This is our Faith* document of Roman Catholic schools to obtain a comprehensive result. These are compared and discussed in section 6.6.

6.5. Critical Thinking in *This is our Faith* Document

As mentioned in detail in section 3.3.2 of the literature on religious education (Chapter 3), there is a main supplementary document for religious education in Roman Catholic schools in Scotland which is called *This is our Faith*. This is the document that all RE teachers in Catholic schools I interviewed referred to as the main one to be considered in their teaching. Therefore, I investigated it according to the framework of critical thinking in this study. The main part of this document addresses the experiences and outcomes of learning RE from P1 to S3. At the time of the analysis of *This is our Faith*, the *Experiences and Outcomes* of the senior phase had not been published. This part was only published in Oct 2015, after this document had been analysed. Thus, to have a consistent analysis of all RE documents, only the *experiences and outcomes* of the fourth level (S3 stage) in each of them are considered.

Therefore, the analysis of *This is our Faith* is divided into two parts, the context of the document and the *experiences and outcomes* of the fourth level. Similarly to the procedure for the RME and RERC documents, firstly the lower level thinking skills are examined in *This is our Faith*. The term critical thinking, its elements and their frequencies are then analysed in section 6.5.2.

6.5.1. Lower Level Thinking Skills in *This is our Faith*

According to the framework of critical thinking, the lower level thinking skills are analysed in comparison to critical thinking skills in the *This is our Faith* document. As with the analysis of the RE documents of *Curriculum for Excellence*, I analysed the context of *This is our Faith* and also the *Experiences and Outcomes* of the fourth level in this document separately to find the lower level skills and sub-skills. Table 10 presents examples of the presence of lower level skills and sub-skills in this document and their frequencies.

Table 10: Evidences of lower level skills and sub-skills and their frequencies in *This is our Faith* document

Document Lower level skills and sub-skills	<i>This is our Faith</i>	Experiences and Outcomes of <i>This is our Faith</i>
Knowledge And understanding	Religious education is designed to engage learners in an educational process which will assist them to develop their knowledge and understanding of significant aspects of Catholic Christian faith... (<i>This is our Faith</i> , 2011, p.9)	I know what it meant by the term ‘Sacred Tradition’ and I understand its relation to God’s revelation (<i>This is our faith</i> , 2011, p.278)
Frequency	Both more than 10	Both more than 10
Lower level sub-skills	Catholic schools aim to develop in learners... the skill to express a coherent understanding of faith and life (ibid., p.10)	I can describe how participation in the Mass should affect a Catholic’s life (ibid., p.283)
Frequency	More than 10	More than 10

The lower level sub-skills evident in *This is our Faith* document include ‘describing’, ‘expressing’, ‘explaining’, ‘exploring’, ‘identifying’, ‘recognising’ and ‘defining’. According to Table 10, the lower level thinking skills and sub-skills are mentioned frequently in this document. Furthermore, the analysis reveals that the majority of experiences and outcomes of the fourth level are also lower level skills. More explanation of this point will be provided after analysing the elements of critical thinking in this document in section 6.5.3.

One of the significant aspects of the document is clarifying the purposes of religious education in Catholic schools. The key point is that one purpose of RE is “developing ‘knowledge’ and ‘understanding’ of Catholic faith including awareness of other Christian traditions and other world religions” (*This is our Faith*, 2011, p.9). Another one is developing the skills of critical thinking (ibid.). While both lower level skills and also critical thinking skills appear as the purpose of RE, there is no other evidence of the term critical thinking or explanation on its development in any part of document. There will be more explanation on the evidence of the term critical thinking in this document in section 6.5.3. However, I could identify the stress on knowledge and understanding skills in different parts of document. Not only are they highlighted in learning Catholic Christian beliefs, they are also emphasised in learning about other Christian denominations and other world religions. Even in the experiences and outcomes of the fourth level, which include mostly the Catholic beliefs and values and less the other world religions, the majority of skills are lower level ones. It seems that one of the purposes of RE in this document is highlighted while the other one, developing critical thinking, is missing. I will discuss this point further when the elements of critical thinking are analysed and compared to lower level skills in section 6.5.3.

6.5.2. The Use of the Term ‘Critical Thinking’ in *This is our Faith* Document

Having explored the whole document, I found the term critical thinking only twice in *This is our Faith*. Both incidences of this term are referring to developing the skill of critical thinking generally as an aim of religious education in Catholic schools. However, there is no explanation or meaning of critical thinking given in any part of

document and it remained an undefined skill for readers. One example of the presence of critical thinking in this document is shown in Table 11, in addition to other elements of critical thinking described in the next section. There will be more explanation of this table in section 6.5.3.

6.5.3. Elements of Critical Thinking in *This is our Faith* Document

Having searched the whole document in order to find the elements of critical thinking, it was found that both the higher level cognitive skills of critical thinking, analysis and evaluation, are mentioned in *This is our Faith*. However, there are only one or two mentions of them in the document and none of these are cited as skills of critical thinking to be developed through religious education in Catholic schools. Furthermore, the analysis of this document demonstrated that the number of references to meta-cognitive skills is higher than for the cognitive skills of critical thinking.

As one of the significant elements of critical thinking is dispositions, I analysed the *This is our Faith* document to reveal them. The analysis showed a large number of dispositions, mostly in the context of the document. Similar to the RERC document, the majority of dispositions in *This is our Faith* are ‘respectfulness’ which is a relevant and specific disposition in religious education curriculum documents. The necessity of emphasis on this particular disposition is established in this document as arising from the context of a multi-cultural and multi-faith society. The document initially asks teachers and Catholic educators to respect all people of Christian and other faiths and to encourage and develop the respect for all views and stances in pupils. In addition to ‘respectfulness’ there references to ‘open-mindedness’ in this document, while other dispositions stated in the framework of critical thinking are not present in this document. It seems that these two kinds of dispositions are thought to be more relevant in the context of religious education in Catholic schools.

Typical examples of critical thinking elements evident in the *This is our Faith* document are shown in Table 11.

Table 11: Examples of critical thinking and its elements and their frequencies in *This is our Faith* document

<div>Document</div> <div>Critical thinking, its elements and their frequencies</div>	<div><i>This is our Faith</i></div>	<div>Experiences and Outcomes of <i>This is our Faith</i></div>
<div>Critical thinking as an aim of RE in Catholic schools</div>	<div>Religious education ...will... develop the skills of reflection, discernment, critical thinking and deciding how to act in accordance with an informed conscience in relation to matters of morality (<i>This is our Faith</i>, 2011, p.9)</div>	<div>-----</div>
<div>Frequency</div>	<div>Twice</div>	<div>None</div>
<div>Cognitive skill</div>	<div>Questions and activities are constructed which challenge the learner to ... analyse ... other people's thoughts and feelings (ibid., p.297)</div>	<div>...I can evaluate whether or not Jesus fulfilled this expectation (ibid., p.273)</div>
<div>Frequency</div>	<div>Analysis (2), Evaluation (1)</div>	<div>Analysis (0), Evaluation (1)</div>
<div>Meta-cognitive skill</div>	<div>Effective use of the core learning will, for learners of other faiths, support reflection on their own faith traditions (ibid., p.63)</div>	<div>I have experienced opportunities to reflect on all that I have learned ... (ibid., p.273)</div>
<div>Frequency</div>	<div>Reflection (4)</div>	<div>Reflection (5)</div>
<div>Disposition</div>	<div>Catholic schools aim to develop in them... awareness of and respect for the views and ways of life of others... (ibid., p.10)</div>	<div>I can express how my research of another world religion has helped me to develop ... respect for people of other faiths (ibid., p.292)</div>
<div>Frequency</div>	<div>Open-mindedness (3), Respectfulness more than 10</div>	<div>Respectfulness (1)</div>

Having compared the presence of lower level thinking skills and the elements of critical thinking in this document in Tables 10 and 11, important findings have been identified which are discussed in depth in Chapter 8. One of the main findings is that the frequency of mention of lower level thinking skills is much higher than that for critical thinking skills in this document, particularly in *Experiences and Outcomes*. It seems that even in the fourth level of *Experiences and Outcomes* the stress is mostly on developing the lower level thinking skills rather than higher order or critical thinking skills. This is similar to the *experiences and outcomes* of the fourth level in RME and RERC document. This point is addressed further in the next section.

A second key finding of this section is that, while the document has explicitly pointed to developing critical thinking as one of the purposes of religious education in Catholic schools, there is no obvious definition of critical thinking for educators. Furthermore, there is no further explanation of how RE teachers could develop critical thinking skills in learners through religious education in any parts of the document, unlike developing the ‘knowledge’ and ‘understanding’ as another purpose of RE. However, *This is our Faith* is a supplementary document of RERC and is expected to provide precise and comprehensive guidance on teaching and learning RE in practice. The final result of the analysis of all RE curriculum documents in terms of critical thinking is discussed in the next section.

6.6. Overall Comparison of RME, RERC and *This is our Faith* Documents Based on Critical Thinking

In this section the RME documents for non-denominational schools are compared with the RERC document in *Curriculum for Excellence* and *This is our Faith*, both for Roman Catholic schools. The comparison aims to discover the similarities and differences between these documents regarding critical thinking and its elements. Table 12 compares the frequencies of all the elements of the framework of critical thinking evident in these documents. Analysing all these RE documents based on the framework of critical thinking establishes that this framework is an appropriate base to identify and compare the elements of critical thinking in the RE documents. Not only can this framework be applied in RE documents, it is also a conceptual and practical tool to analyse the documents of other curriculum areas. This is a crucial finding of this study, which is discussed further in Chapter 8.

Table 12: Comparison of the number of the elements of framework of critical thinking evident in all policy documents of religious education

<div>Documents</div> <div>Elements of framework</div>	RME		RERC		<i>This is our Faith</i>	
	Principles and Practice	Experiences and Outcomes	Principles and Practice	Experiences and Outcomes	Context	Experiences and Outcomes
Lower level skills	> 10	> 10	> 10	> 10	> 10	> 10
‘Critical thinking’ term	4	1	3	0	2	0
Higher level Cognitive skills	1	1	4	2	3	1
Higher level Meta-cognitive skills	5	2	7	1	4	5
Disposition	4	1	7	1	> 10	1

As shown in Table 12, all elements of critical thinking are evident in all RE documents in both kinds of schools; however, the stress is on lower level thinking skills in comparison to the critical thinking skills. This is shown by also comparing the *experiences and outcomes* of the fourth level in all RE documents. The table shows that there are meaningful similarities in the *experiences and outcomes* of those documents and no huge differences could be found between RME and RE in Catholic schools. Therefore, one of the main findings is that the aim of the fourth level in RE might be the development of lower level thinking skills rather than the critical thinking skills. As mentioned in section 6.4, this finding is not specific to religious education: I have found the same result in the *Experiences and Outcomes* of the fourth level of other curriculum areas, except social studies. One possible reason might be that the policy makers imagine that pupils in S3 stage are not ready enough and it is not necessary to engage them in these kinds of skills in that age.

Another similarity is in the way the term critical thinking is been used in these documents. In all of them developing critical thinking is one of the purposes of learning in religious education. This is an important finding, showing the significance of critical thinking in learning religious education documents. However, this term is an undefined concept and also the methods leading to its development are not clearly identified in these documents for the RE teachers.

There is a difference in the presence of the elements of critical thinking in these documents. According to Table 12, the number references to critical thinking skills and dispositions found in RE documents of Catholic schools is greater than that found in the RME document. This difference is considerable, particularly in the number of dispositions addressed in *This is our Faith* in comparison to the RME document. It seems that in a multi-faith society, the Catholic schools need to show their openness and respect to other faiths and those with no faiths. Thus in these types of schools, pupils are more explicitly encouraged to respect other faiths than in the non-denominational schools, which are naturally open to pupils of all different worldviews.

Finally, in addition to all the key findings discovered in the analysis and comparison of the RE documents, it can be said that the content analysis of those documents

demonstrates the development of critical thinking and its elements in all of them. However, the nature of the documents of non-denominational schools is different from those of Roman Catholic schools. It means that there could be different types of critical thinking in different contexts of religious education. The thematic analysis of RE documents is applied in the next section to investigate different types of critical thinking in these RE documents.

6.7. Thematic Analysis of RE Curriculum Documents

While the content analysis of RE documents shows the similarity in the way critical thinking and its elements are evident in RE documents, the main purpose of thematic analysis is to investigate the underlying ideas in the incorporation of critical thinking in those documents. In other words, I have explored the themes extracted from documents demonstrating different types of critical thinking embedded in them. These are crucial issues which indirectly influence critical thinking and make a significant distinction between the degree of integration of critical thinking in different RE documents. These identified themes, which demonstrate different types of critical thinking in non-denominational and Roman Catholic RE documents, are listed as:

- Approaches to religion
- Position of truth
- Personal search
- Learning about and from religion
- Balance in considering different religions

These themes and their relation to critical thinking in the documents are described in the following sections.

6.7.1. Approaches to Religion in RME and RERC Documents

One of the significant issues in documents which influence the way critical thinking is embedded in different RE curriculum documents is the approaches to religion in each document. The general approaches to religion include three particular approaches to these specific belief systems:

- (1) Christianity as the main religion in Scotland
- (2) Other world religions
- (3) Stances independent of religious views

This is our faith is the only one in which its particular approaches to different religious and non-religious belief systems are explicitly stated. It is emphasised in this document that the nature of religious education is “confessional”; thus Roman Catholic beliefs are dominant and “objectively true” and “relativism must be avoided” (*This is our Faith*, 2011, p.16). Moreover, the document defines the “phenomenological approach” as “presenting all denominations and faiths as equally true” and rejects this approach to religions (ibid., p.16). The phenomenological approach to religions defined in this document is somehow different from the definitions by academics. Although Barnes defines it as a multi-faith and neutral religious education so that no religion is privileged over another (Barnes, 2006), there is no emphasis that all religions are equally true. Conroy and McKinney (2010) also consider the phenomenological approach to religious education as a means to compare and contrast a range of religious belief systems. It seems that there is misrepresentation of the meaning of this phenomenological approach in this document. Nonetheless, even this latter more accepted definition of a phenomenological approach also is not acceptable for *This is our Faith*, given the dominance of Roman Catholic beliefs as truth claims.

The document also introduces a new approach to other world religions which is called the “anthropological” approach. In this view, other world religions are seen from the “standpoint of human experience” and treated with “due respect and understanding” (*This is our Faith*, 2011, p.17). Moreover, dealing with the views independent of religious beliefs seems limited, such that there is no phenomenological view of them and only *some consideration* of stances independent of religious beliefs is regarded in Catholic schools:

“When using anthropological approach to teaching...there will be some consideration of the non-religious symbols, rituals... and beliefs that feature in society today” (ibid., p.18).

Having considered the *Experiences and Outcomes* of S3 level in *This is our Faith*, I

have found that the emphasis is mostly on Catholic Christianity and then on world religions, as the second priority. Thus there is less stress in the views independent of religious beliefs such that no *Experiences and Outcomes* of these views could be found in this document.

The approaches to religions in the RERC document of *Curriculum for Excellence* are not as explicit as those stated in *This is our Faith* document. Thus there is no explicit pointing to the ‘confessional’ approach to Catholic Christianity seen in the RERC document. Religious education in Catholic schools is identified as a community of faith which is designed to help pupils to be able “to make an informed and mature response to God in faith and to nurture that faith” (Education Scotland, 2015c, p.1). In addition, according to this document, religious education offers opportunities for “*evangelisation*, proclaiming the Gospel message to all” and “*catechesis*, deepening of existing faith commitments among believers” (ibid., p.1). According to these types of evidence which demonstrate the role of Catholic Christianity in this document as the main faith and ‘true’ worldview taught in Roman Catholic schools, the approach to Catholic Christianity is conceived as, ‘faith formational’ or implicitly confessional.

Furthermore, it has been generally stated that religion is not considered as “a phenomenon from an external perspective” (Education Scotland, 2015c, p.2). Hence, the phenomenological approach to religions is again not supported in this document, similarly to *This is our Faith* document, although the language seems more moderate. What is indicated about world religions is “an appreciation of significant aspects of major world religions” in addition to “respecting the search for truth takes place in other faiths” (ibid., p.2). Likewise, pupils learn about “stances independent of religious belief” according to this document (ibid.). As with *This is our Faith*, the central emphasis is only on Catholic Christianity and there is minimum concern given to non-religious views, such that no experiences and outcomes of non-religious views could be found in the RERC document.

Comparison of the approaches to different religions in *This is our Faith* and the RERC documents reveals the similarities and differences between them. Although both of them are the documents for Roman Catholic schools, it seems that they have been written by different groups of writers with different assumptions. RERC, which

is a part of *Curriculum for Excellence* has been written by the government as a national curriculum document. However, *This is our Faith* is a guideline with an entirely Catholic perspective, approved by the Roman Catholic Church and published by Scottish Catholic Education Service (SCES) on behalf of the Catholic Bishops of Scotland (SCES, 2015). Therefore, there are differences in the language of these two documents. Whilst *This is our Faith* seems confessional and catechetical, RERC is more informational. Moreover, the ‘confessional’ term is not used explicitly in RERC, though the ‘faith formational’ approach interpreted in RERC is similar to ‘confessional’, while the language is more modest. This approach to Catholic Christianity in these two documents has a similar meaning to the confessional approach to Christianity dominant in British society early twentieth century (described in Chapter 3). However, based on the multicultural and multi-faith aspect of Scotland in the twenty first century, different approaches to other religions and non-religious views are also mixed up to these documents to cover more diversity. Accordingly, pupils are encouraged to treat other worldviews with *respect* (*This is our Faith*, 2011) and to *appreciate* and *respect* the elements of truth in those worldviews (Education Scotland, 2015c). However, one criticism of the language applied in *This is our Faith* is that this document is too confessional and its application can be problematic for the pupils of other worldviews attending Roman Catholic schools.

The approach to religion in the RME document of non-denominational schools in *Curriculum for Excellence* is very different from the views in Roman Catholic schools. In this document the approach to Christianity, other world religions and non-religious viewpoints are addressed alongside each other:

“learning through religious and moral education enables children and young people to ... learn about and from the beliefs, values, practices and traditions of Christianity and the world religions... and viewpoints independent of religious beliefs” (Education Scotland, 2015a, p.1).

The reason to address Christianity separately from other world religions, but with the same weight, is that Christianity has shaped the history and tradition of Scotland. Therefore, it is argued that this religion must be regarded in the curriculum of religious education in non-denominational schools in addition to other world religions.

While no specific approach to religion is explicitly identified in the RME document, it seems that this document suggests the implicit combination of different approaches to religion. As no evidence of emphasis on ‘truth’ claims can be found in this document it appears that all religions are treated the same. Thus the phenomenological approach is implicitly interpreted, although its explicit expression is avoided. In addition, religion is defined as “an important expression of human experience” in the RME document (Education Scotland, 2015a, p.1). Therefore, there might also be the ‘experiential approach’ to all religions in this document.

Additionally, the *Experiences and Outcomes* in this document cover Christianity, world religions and views independent of religious beliefs.

6.7.2. Position of Truth and Personal Search in RME and RERC Documents

There are different views of the word ‘truth’ in the documents for religious education in both sectors. While there is no evidence of the expression of the word ‘truth’ in the RME document for non-denominational schools, this word seems to have a central role in *This is our Faith* and the RERC document. Catholic Christianity is introduced as the ‘objective truth’ in these two documents for Roman Catholic schools. In addition, there can be seen a pointing to the ‘elements of truth’ in other religions in the RERC documents; however this is unlikely to be the complete truth, as only Catholic Christianity is introduced as the complete truth.

The other difference found between religious education documents in the two sectors is in identifying ‘personal search’, emphasised in all RE documents, and its relation to the ‘truth’. In the RME document of *Curriculum for Excellence* the process assisting the ‘personal search’ is identified as a key component of teaching and learning in religious education (Education Scotland, 2015a). This process consists of developing pupils’ knowledge and understanding of values, practices and traditions, in addition to development of their own beliefs and values (ibid.). According to this document, in RME pupils “engage in a search for meaning, value and purpose in life” (ibid., p.1). While there is no pointing to the ‘truth’ in personal search in this document, in Roman Catholic documents a close relation between truth and personal search could be observed.

In the RERC document a purpose of religious education that makes it central to learners' educational development is supporting all pupils in their personal search for truth and meaning in life (Education Scotland, 2015c). Furthermore, pupils of other denominations and stances independent of religious beliefs have "the opportunity to progress their personal search for meaning and truth" in Catholic schools (ibid., p.3).

Correspondingly, according to *This is our Faith*, one of the teachers' roles in religious education is to assist learners in their personal search (*This is our Faith*, 2011). There is also more explanation of personal search and its relation to the 'truth':

"teachers in Catholic schools... assist them in their personal search for meaning, value and purpose in their lives and in their personal response to the revelation of God" (ibid., p.12).

Additionally, for pupils of other faiths and non-religious stances religious education is "an opportunity to progress their personal search for meaning and truth" (ibid., p.298).

Therefore, personal search is for meaning, value and purpose in life in the RME document of non-denominational schools, while the stress is on personal search for meaning and 'truth' in Roman Catholic documents. In other words, the object of personal search is presented differently in these two types of documents. While documents of Roman Catholic schools put their main effort to push the pupils towards what they consider as 'truth' within their particular world-view, the guiding documents of non-denominational schools provide a general and broader view of personal search for pupils, with no emphasis on the very existence of the 'truth' and pursuing it in religious education.

6.7.3. Learning About and From Religions

In the RME document for non-denominational schools one of the aims of learning religious and moral education is identified as learning about and from Christianity, world religions and other viewpoints independent of religious beliefs (Education Scotland, 2015a). In this respect all pupils are encouraged to develop their knowledge and understanding of values and traditions (learning about) and also to develop and reflect on their own beliefs and values (learning from) (ibid.). This approach is very

similar to what is known as Critical Religious education, explained in Chapter 3.

According to *This is our Faith* and the RERC document, the emphasis is on the learning about and from Catholic Christianity. Although in *This is our Faith* the general encouragement to learn about and from other Christian denominations and other world religions is stated, there is also acknowledgment of the time limitation to only learning about them. Thus, as the main focus is on the Catholic Christianity, the time allocated to learning about world religions is limited (*This is our Faith*, 2011). This might be the problem for the pupils of faiths other than Christianity in Catholic schools as they do not have this opportunity to reflect on their own beliefs.

6.7.4. Balance

According to the explanation of the above themes, in the RME document, the approaches to all religions and non-religious views are the same; thus there is a balance in learning about and from all of them. However, in the Roman Catholic documents there appears to be an imbalance in approaching different religions and stances independent of religious beliefs. As mentioned above, the largest parts of these documents are exclusively allocated to Catholic Christianity as the only objective truth. Therefore, learning about other world religions is regarded in a limited allocation of time and also there is only some consideration of the non-religious belief systems in these documents. Table 13 summarises the themes extracted from each RE document.

Table 13: The themes extracted to compare the RE documents with each other

Documents Themes		<i>This is our Faith</i>	RERC	RME
Approaches to religions	Catholic Christianity	Confessional	Faith formational	No clearly defined approach Experiential approach Religion as an <i>important</i> expression of human <i>experience</i>
	World religions	Anthropological No phenomenological approach	An <i>appreciation</i> of significant aspects of major world religions No phenomenological approach	
	Non-religious views	<i>Some consideration</i> of the non-religious symbols, rituals, important texts and beliefs No experiences and outcomes for non-religious views in this document	An <i>appreciation</i> of significant aspects of stances for living independent of religious belief No experiences and outcomes for non-religious views in this document	
Truth		Catholic beliefs as objective truth	Catholic beliefs as objective truth and Elements of truth in other religions	No evidence of the expression of truth
Personal search		Personal search for meaning and truth	Personal search for truth and meaning in life	Personal search for meaning, value and purpose in life
Learning about and from religions		Learning about and from Catholic Christianity Learning about other world religions	Learning about and from Catholic Christianity Learning about other world religions	Learning about and from all world religions and non-religious views
Balance		Imbalance	Imbalance	Balance

6.8. Different Types of Critical Thinking in RE Curriculum Documents

The evidence provided from the RE curriculum documents about some crucial themes clearly shows that critical thinking, although promoted in all documents, is shaped by the underlying contexts, overall assumptions, particular world views or beliefs and intentions of the authors. In other words, critical thinking is developed within a particular ‘boundary’, which is often taken for granted. Although all the skills and dispositions I explored in the framework of critical thinking are similarly applied in the documents, the particular approaches gained through thematic analysis are very different. This means that although pupils are encouraged to apply the elements of critical thinking, there are certain limitations beyond which critical thinking might not be promoted. Pupils are taught to be critical, be open to different beliefs and ideas, and have self-regulation. At the same time, particular approaches are often explicitly or implicitly preferred over alternatives in all documents.

Based on the themes in the RE documents identified above, there are different types of critical thinking in those documents in Roman Catholic schools compared to those in non-denominational schools. Even for Roman Catholic schools, the document developed by the government has a different approach to *This is our Faith*, although it is supposed that the latter should be in line with the former. When there are dissimilar approaches to religion in RE curriculum documents, the term ‘critical thinking’ evident in these different contexts could have different meanings and interpretations. Nonetheless, all the elements and layers of ‘critical thinking’ in the framework appear in the same way in these documents.

As mentioned in sections 6.8.1 and 6.8.2, there are specific views on religion in the RE documents for Roman Catholic schools where the ‘confessional’ approach is explicitly or implicitly promoted. In these documents, RERC and *This is our Faith*, the coverage of views independent of religious beliefs appear very marginal, such that they are excluded from the *Experiences and Outcomes*. In *This is our Faith*, although skills and dispositions of critical thinking are promoted, the menu of alternative choices of truth claims is largely limited *within* Catholic Christianity, which is introduced as the objective truth. As a result, *critical thinking within religion* is evident in *This is our Faith* document. This implies that the pupils are encouraged to apply all skills of critical thinking, however these are based on accepted criteria and particular evidence accepted within a specific religion.

In the RERC document of *Curriculum for Excellence*, although it is another document for the Roman Catholic sector, there are some important differences between this and *This is our Faith* which may reflect a different type of critical thinking in RERC. RERC does not explicitly describe its approach, as “confessional”, although it could still be labelled as ‘faith-formational’ or implicitly confessional. In addition, within this document Catholic Christianity is still the central truth (Education Scotland, 2015c). However, compared to *This is our Faith*, other world religions are treated more seriously as the possible source of the truth. Therefore, pupils are encouraged to both appreciate and respect the elements of truth in other worldviews (ibid.). Since the possibility of truth claims from other religions are somehow accepted, it could be claimed that there is some evidence of *critical thinking between religions* (Weinstein, 1996) in RERC.

There is a wider and more open view of religions as human experience in the RE documents of non-denominational schools. The *Experiences and Outcomes* include Christianity, world religions and general beliefs and values, thus in this broad context the skills of critical thinking may find a wider opportunity to be developed. This type of critical thinking in RME documents is close to what Weinstein (1996) described as *critical thinking concerning religion*, where the claims independent of a religious framework are also evaluated alongside the claims drawn from the context of different religions. More discussion on these different types of critical thinking will be undertaken in Chapter 8.

The danger of this way of using the term ‘critical thinking’ is that it may gradually become a buzzword, where it may be applied in combination with any idea or belief system. As a result, it is possible that critical thinking is encouraged even within a very closed and inflexible thinking, where students are allowed to think critically within very narrow boundaries. This might then be in contradiction with the aim of critical thinking where pupils should be openly thinking about alternative views. The current research suggests that the elements of critical thinking in the framework are equally applicable in the analysis of documents. However, underlying different approaches should also be explored in order to understand how critical thinking is shaped within particular contexts, as the same framework may imply different types of critical thinking when it is applied in different contexts and in combination with other ideas. The compatibility and consistency of the context with the core idea of critical thinking should also be considered.

6.9. Summary of Findings

The content and thematic analysis of RE documents of both sectors identified the following important findings:

- There is an emphasis on lower level thinking skills in RE documents of both sectors, particularly in *Experiences and Outcomes* of S3
- There is an emphasis on development of critical thinking in the process of teaching and learning religious education in RE documents of both sectors
- There is more emphasis on dispositions of critical thinking in RE documents of the Roman Catholic sector than of the non-denominational sector
- There is a lack of a clear definition of critical thinking and its development in all RE documents
- ‘Respectfulness in facing divergent beliefs’ was identified as a new and frequently used disposition in all RE documents
- Different approaches to religion and its relation to critical thinking in RE documents were identified

6.10. Conclusion

According to *Curriculum for Excellence* there are eight main curriculum areas in Scotland. Religious education is one of these curriculum areas, which needed to be considered in depth and comprehensively in this research, particularly in terms of critical thinking. First, critical thinking in other curriculum areas was investigated briefly. The curriculum documents of religious education in two different sectors, non-denominational and Roman Catholic, were then explored in this chapter in order to reveal the integration of critical thinking within each of them. The content analysis of RE documents was conducted, based on the framework of critical thinking, in order to find and compare the term critical thinking and all elements of the framework evident in these documents. The analysis showed the extent to which the documents emphasise lower level thinking skills in comparison to higher level skills of critical thinking. In addition, thematic analysis was carried out to examine different types of

critical thinking according to the approaches to religion and truth in each document. The results of analysing RE documents for each sector were compared to each other to discern the similarities and differences in incorporation of critical thinking in these documents. The analysis demonstrated important findings, including an emphasis on critical thinking in the process of teaching RE, lack of any explicit definition of critical thinking in all the RE documents, identification of a new disposition of critical thinking, and different types of critical thinking in RE documents for different sectors. These findings will be discussed in Chapter 8 in detail. In the next chapter the teachers' interviews will be analysed based on the framework of critical thinking, to discover and compare their understanding of critical thinking in religious education.

Chapter 7: Teachers' Understanding of Critical Thinking

7.1. Introduction

In this chapter the analysis of the interview data is presented and used to explore teachers' understanding of the concept of Critical Thinking and any similarities and differences between understandings from teachers in different types of schools. Throughout this chapter I aim to answer the following research questions:

6. How do RE teachers in non-denominational and Roman Catholic secondary schools understand critical thinking?
7. What are the similarities and differences in teachers' accounts in relation to critical thinking in those two types of schools?

The interviews were conducted with nine religious education teachers in eight secondary schools; five of them were from five different non-denominational schools and four were working in three Roman Catholic schools. The same questions (see Appendix D) were asked of all respondents. Having transcribed all the interviews, they were then analysed according to the framework of critical thinking outlined in Chapter 5. As described in the methods chapter, a thematic analysis was performed to match the transcripts with the codes drawn from the basic framework; the important themes which emerged under each code were then explored, and finally, themes were categorised and analysed in order to answer the research questions. In addition, I also considered other themes that emerged which might not directly address the research questions, but do suggest new and noteworthy findings from this study. To this end I employed a coding procedure beginning with the basic critical thinking framework and also open coding. Accordingly, the basic critical thinking framework was used as a kind of guideline, demonstrating my approach to critical thinking and its elements during this study. As a result, all codes and themes related to critical thinking from the transcripts were compared to my framework of critical thinking to undertake a coherent analysis of data.

This chapter presents the results of the thematic analysis regarding teachers' accounts of critical thinking drawn from interview data. Section 7.2 introduces the ways in which the RE course is developed and formed in the Scottish education system. This is to help in understanding the different factors shaping the RE course and potential points where critical thinking may enter or influence the curriculum. In section 7.3, I distinguish between two different perspectives for the analysis of teacher's understanding of critical thinking, which are discussed in subsequent sections. These perspectives are:

- 1) The extent to which elements of the critical thinking framework are addressed in their understanding of critical thinking
- 2) The overall approach by which the teachers define critical thinking and its incorporation in the RE curriculum.

Section 7.4 provides a summary of teachers' understanding of critical thinking based on the elements in the framework of critical thinking developed in this study. Section 7.5 explores the variety of overall approaches found in teachers' views of critical thinking. Section 7.6 combines these findings to answer the research question. In the final section, I have summarised the teachers' knowledge of RE curriculum documents, which provides interesting insights. This information, in addition to findings from the RE curriculum document analysis is useful in understanding the role of these documents in shaping teachers' perceptions of critical thinking in religious education.

7.2. Religious Education Courses in Non-denominational and Roman Catholic Schools

In order to discover the process of designing an RE course in non-denominational and Roman Catholic schools, and particularly in S3 and S4 stages, several questions were asked focusing on the choice of issues to be covered and resources used in S3 and S4, and the factors considered by the schools in this process.

Based on the teachers' responses, I found that there are different types of resources used to support RE teaching in schools. Teachers mentioned two main forms of resources: written and visual materials. The written resources consist of textbooks and also worksheets, power-

point presentations and computer-based resources which are made by teachers. The visual materials include films, YouTube clips, TV programmes or clips from parliamentary debates. Within the scope of written material, a considerable variety of issues is addressed. I grouped all RE issues taught in both kinds of schools into three main categories:

1. World religions

Consists of Christianity, Islam, Buddhism, Judaism, Hinduism and Sikhism

2. Philosophical issues

Key issues include arguments for the existence of God, science and belief, and life after death

3. Moral issues

Key issues include making moral decisions, capital punishment, and euthanasia

The written RE resources used to teach about these issues are categorised as:

- Textbooks - published books available for all schools to use
- In-school resources - resources made by teachers for their own schools
- SCES resources - compulsory resources for RC schools provided by 'Scottish Catholic Education Service', which supports and promotes Catholic education in Scotland.

During the interviews, teachers emphasised the lack of appropriate textbooks to teach an entire topic, and reported that they have to select parts from textbooks or make their own resources for their schools. Therefore, the selection of issues mentioned above is significant, as this is what informs the choice of resources.

Figures 2 and 3 illustrate schematically how a typical RE course is formed and what factors influence the choices of RE issues and RE resources in non-denominational and Roman Catholic schools, respectively. These figures show that there are two main factors influencing the choice of RE issues to be addressed in each kind of schools and also two factors affecting the choice of RE resources in those schools. The product of the process is the RE course designed by RE teachers in different kinds of schools.

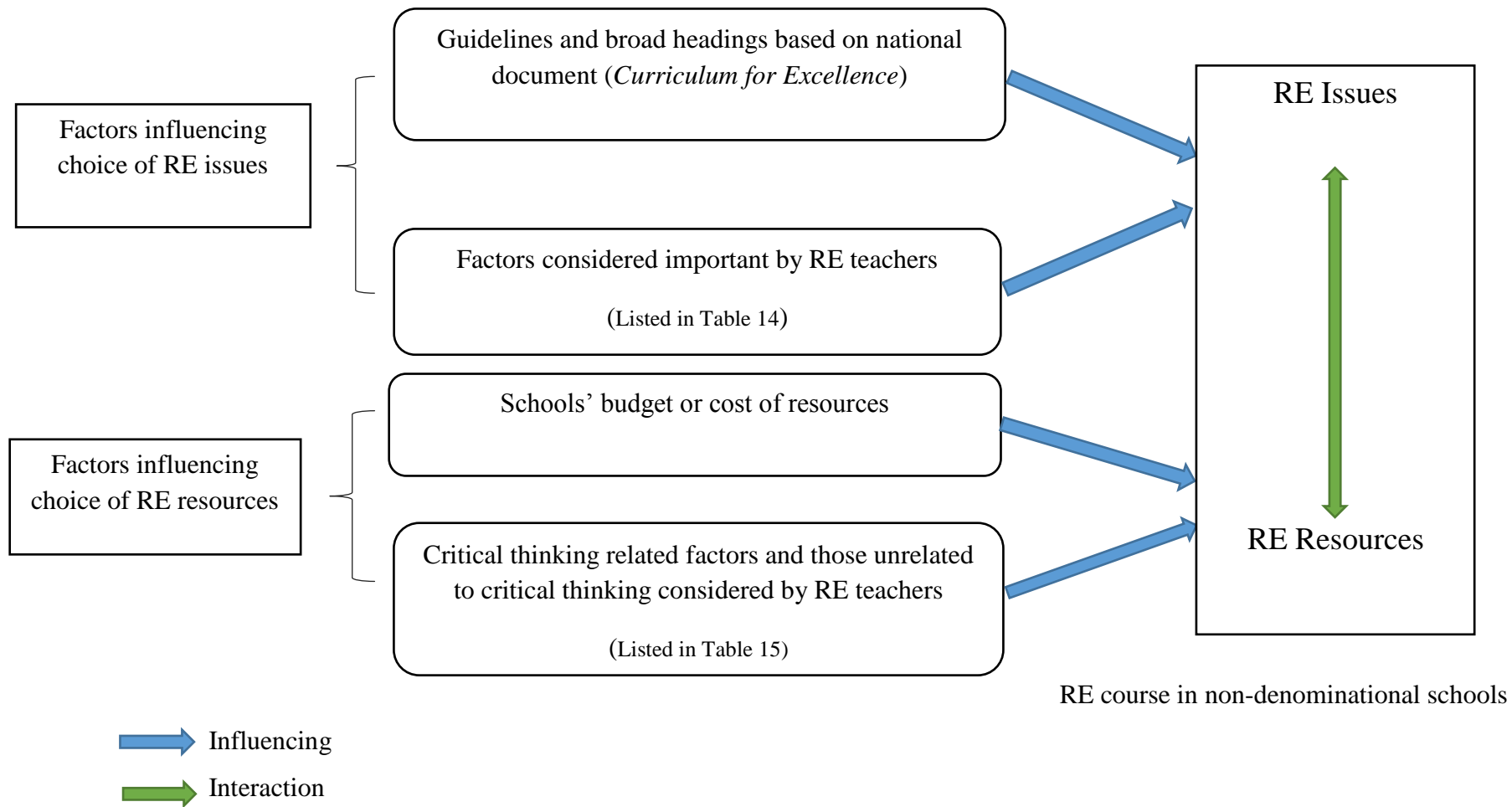


Figure 2: The process of forming RE courses in non-denominational schools

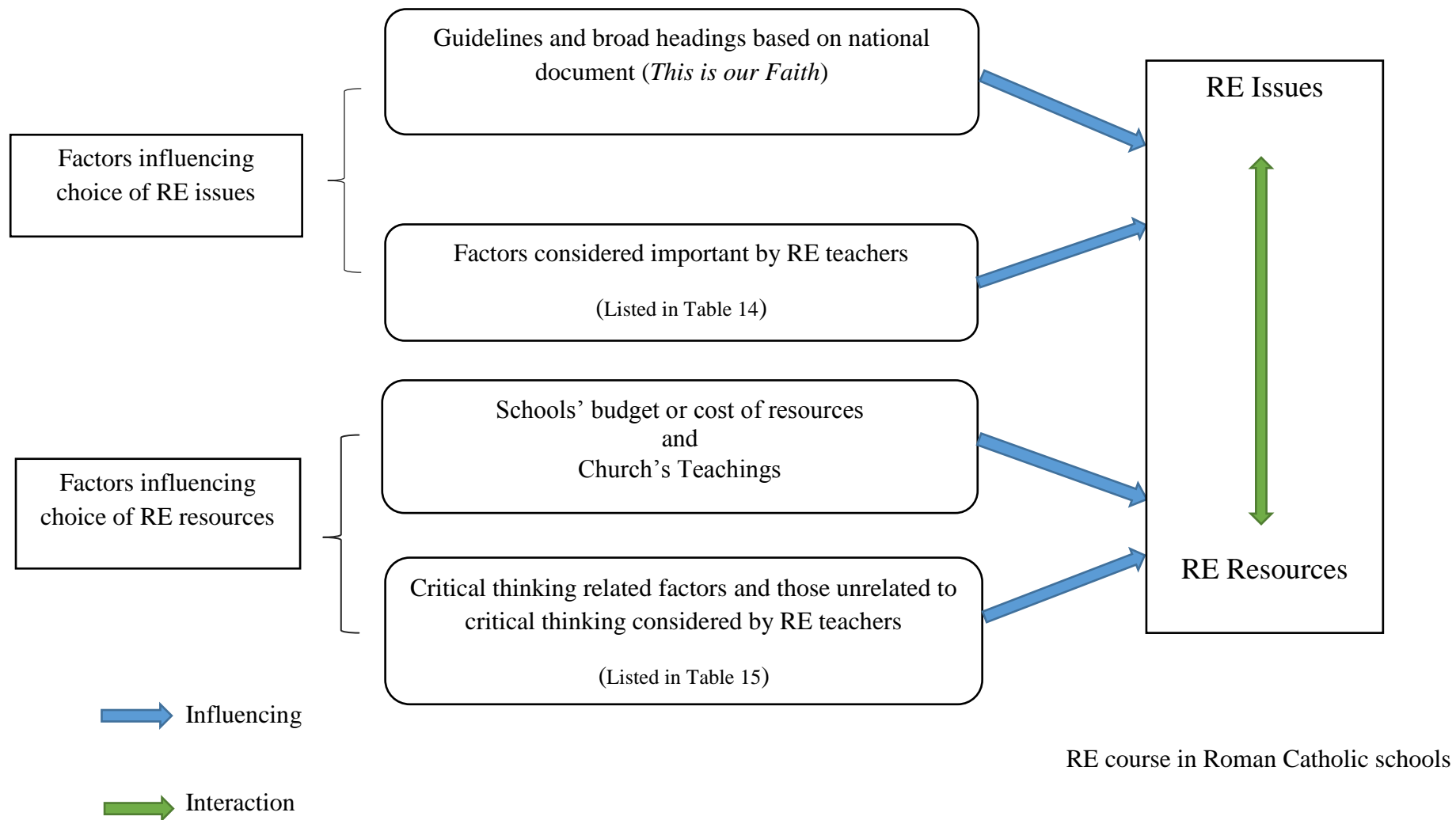


Figure 3: The process of forming RE courses in Roman Catholic schools

All of the teachers in non-denominational schools expressed a sense of freedom within their departments in choosing the RE issues to include. However, they acknowledged that their freedom has been guided and bounded by the main document, which is *Curriculum for Excellence* in non-denominational schools. While they claimed that there is no strict syllabus of RE for non-denominational schools, the role of the *Curriculum for Excellence* document was to provide the broad headings and certain guidelines to follow.

Similarly, in the Roman Catholic schools, all the teachers interviewed emphasised their choices and being able to follow personal interests within the guidelines of the *This is our Faith* document in the selection of RE issues. Thus, it seems that the main external factors delimiting RE teachers' scope of choices of the issues to cover in the RE course, in both types of schools, are the guidelines set out in national documents.

Having described the amount of choice RE teachers feel they have, various factors were mentioned as relevant when selecting the issues to cover in religious education in their schools. These factors are listed in Table 14, identifying the factors that were considered relevant in each school.

Table 14: Factors considered by RE teachers in different schools in selection of RE issues

Factors considered by teachers	Teachers in different schools
Pupils' interest and enjoyment	ND2, ND4, ND5, RC3a
Having up-to-date cases	ND1, ND2, ND5, RC3b
Relevance to the pupils' world	ND1, ND2, ND5, RC3a
Engaging	ND3
Challenging	ND2
Key effective areas for life	RC2
Teachers' interest and topics they were passionate about	RC3a
Teachers' confidence and experience	ND2
Church's teaching	RC1

From Table 14 it can be seen that three factors: ‘pupils’ interest’, ‘up-to-date cases’ and ‘relevance to the pupils’ world’ were the most popular factors, which were each mentioned by four of the RE teachers, and were present in both kinds of schools.

Having selected the RE issues, the teachers then either have to select from existing resources or produce the resources for their own schools. While all RE teachers said they had free choice in this process, in practice, teachers in both types of schools acknowledged that their choices were limited by the available budget and cost of the resources. In addition, all the resources in Roman Catholic schools should be in line with church’s teachings, as the teachers said:

“...the actual prohibition is using a resource that says this is what Catholics believe that hasn’t been verified by the church itself” (RC3b).

“...we wouldn’t be picking something that is off-line of the church’s teaching...” (RC1).

This is consistent with the view that Catholic religious education ‘takes place within the context of the wider Catholic faith community’ and gives the pupils knowledge about Christian identity and Christian life (see section 3.5.3).

According to the majority of teachers in both types of school, there are not many appropriate textbooks that cover all the issues they select to teach and are also affordable to buy for all pupils. Thus, most of the RE teachers in those schools used bits of different textbooks in their teaching and also produced resources with little cost for their schools. These kinds of in-school produced resources by teachers were in different formats, such as worksheets, or computer-based resources, including power-point presentations. Some RE teachers in both types of schools added visual materials such as movies, YouTube clips or TV programmes to the paper-based resources they had.

Similarly to the question on the factors considered in the choices of issues in RE, I also asked about the factors taken into account in choosing or producing the teaching resources. The factors they identified in their responses can be divided into two main categories, those which were critical thinking-related and those unrelated to critical thinking. This division was

carried out to explore whether the factors in the choice of the resources were related to critical thinking or not.

Unsurprisingly, given other important considerations, the majority of factors these nine RE teachers pointed out were not specifically related to critical thinking. Among the variety of factors in the group unrelated to critical thinking, some were more frequent, as they were mentioned by several teachers. Table 15 shows the frequency of each factor in both groups.

Table 15: Factors considered by RE teachers in different schools in selection of RE resources

Factors considered by teachers		Teachers in different schools
Critical thinking related factors	Challenging and engaging contexts and tasks	ND1, ND2, ND3, ND4, RC1, RC3b
	Covering higher order levels of Bloom's taxonomy	RC1
Factors unrelated to critical thinking	Suitable for the age and level of pupils	ND4, RC2, RC3a
	Relevant to the community	ND1, ND3, ND4
	Having accessible and relevant tasks	ND1, RC1, RC3a
	Having up-to-date cases	ND1, ND3
	Simplified and not too dense	ND2, RC2
	Not too easy or too difficult	ND2
	Accuracy and looking professional	ND3
	Multi-functional	RC1
	Having good body of knowledge	RC3b
	Consistency with four activities (think, do, say, write)	RC2

These frequent factors are ‘the age and level of pupils’, ‘relevance to the community’ and the ‘type of tasks’. There are also factors in the category unrelated to critical thinking which were mentioned by only one or two RE teachers, as shown in the Table 15. In addition, there are two characteristics which are critical thinking-related, as they can be used to improve different aspects of critical thinking skills or dispositions. One of these emphasised by only one RE teacher, is ‘covering higher order levels of Bloom’s taxonomy’. This explicitly points to the higher order thinking skills in Bloom’s taxonomy which are similar to cognitive skills of critical thinking. The other factor in this category, emphasised by four teachers in non-denominational schools and two teachers in Roman Catholic schools, is ‘Challenging and engaging contexts and tasks’. One of the teachers explained this factor in this way:

“We tend to avoid purely information books...the best kind of books I think is the one which has lot of tasks... and involving pupils in active learning, not just copying things out or answers to questions...” (ND1).

One of the RE teachers in a Roman Catholic school also mentioned the implicit relation of this factor to critical thinking:

“...what’s quite important to us is the kind of tasks they have in them. Things we don’t like is the sort of just read the passage and answer the questions; it has to engage them and to get them thinking on their own thoughts about things” (RC1).

The RC1 teacher emphasised “personal reflection”, described in her response quoted above as “thinking on their own thoughts about things” (RC1). What the teacher was highlighting here was self-regulation, the meta-cognitive skill of critical thinking and she regarded engagement as the initial step to reflection:

“We are very much into reflection, even sort of personal reflection, so when we do engage with something we want them to reflect on that” (RC1).

It seems that some of the RE teachers were thinking a step higher than the lower level of knowledge and considering a higher level of thinking, which is an element of critical

thinking, when they mentioned the factors related to critical thinking in selection of resources.

This can also be interpreted as partly a result of the strong emphasis on the “journey of faith promoted in Catholic schools” and the role of religious education to “support young people in their reflection and response to God’s invitation” (*This is our Faith*, 2012, pp. 8 and 10).

7.3. Approaches to Critical Thinking

As one of the crucial aims of this research is to explore the RE teachers’ understanding of critical thinking, and this was a major focus of the interview questions. I analysed teachers’ understanding of critical thinking from two perspectives:

- 1- The extent to which elements of the critical thinking framework were present in their understanding of critical thinking;
- 2- The overall approach through which the teachers defined critical thinking and its position in the RE curriculum.

The comparison of the teachers’ understanding of critical thinking is based on both the level of thinking skills in the framework which they addressed and the overall approach they employed.

This distinction is important because, as will be seen, whilst teachers’ accounts of critical thinking may cover similar elements, it is possible that individual teachers may be taking different overall approaches and, *vice versa*, similar overall approaches may be underpinned by different elements in teachers’ understanding of critical thinking.

7.3.1. Comparing Understandings of Elements of the Critical Thinking Framework

Table 16 illustrates in detail the examples of critical thinking elements that appeared in teachers’ responses, comparing these responses alongside each other. These typical examples are direct quotes from teachers in which explicit and implicit elements of critical thinking are in bold.

Investigating the core elements of critical thinking according to the framework and teachers' explanations of critical thinking uncovers almost no meaningful difference between the responses of teachers in the two kinds of schools. As Table 16 shows, the RE teachers in all schools explicitly or implicitly pointed out higher level cognitive and meta-cognitive skills of critical thinking, and also some of dispositions are implicitly found in their understandings. Although there is some observable variety in the types of dispositions considered by the teachers, there does not appear to be a systematic difference between teachers in the two sectors.

Table 16: The examples of critical thinking elements evident in teachers' accounts of critical thinking

Elements of critical thinking Teachers	Cognitive skills		Meta-cognitive skills	Dispositions			
	Analysis	Evaluation	Self-regulation	Respectfulness	Open-mindedness	Willingness	Self-confidence
ND1	Having reasons for and against an issue, analysis activity	Ability to weigh these reasons, evaluation	Making up their mind as to where they stand, assess it and justify their own opinion	Ethos of respect that other people have different beliefs			
ND2	Think different ways of responding to the same question and breaking down that thinking	Challenging skill of evaluation	They have to be able to explain why they stood where they are		They can have an idea against me, they have good reason for it and it's entirely up to them	If somebody says something makes them change their mind they are allowed	
ND3	Taking conflicting views, argue for and against them	Come to a reasonable assessment of its validity	Developing their own thinking process, how they feel before and at the end of debate		They are quite open to what they think and quite accommodating of other pupils disagreeing with them,		
ND4	Looking at all different aspects, bringing them together and breaking it down	If something came into their mind examine another possibility	Why do we believe what we are told?	It's fine to say why you don't agree with someone as long as you have been respectful with them	It's fine to say why you don't agree with someone as long as you are open with them		They think: I know how to critically think, how to analyse and evaluate something
ND5	Seeing other pupils' point of view and getting them to argue the opposite case	Assess an issue if it's right or wrong	Forming their own opinion and assess it, explaining why they have changed their opinion		They are willing to listen to everyone's opinions	It's fine to change their opinion during the class as long as they can say why they have done that	They will not be frightened to tackle big issues
RC1	Looking at both sides of an issue and checking it out	Evaluating	Challenging their thinking, getting them to explain why they think and show how they evaluate what are the best	They trust each other to be respectful and respected by others	They trust each other to be open, not afraid to share opinion, welcome to everyone's beliefs	Some kids come from homes where questioning is never encouraged, they adapt themselves with two different worlds; home and school	They feel confident or safe and don't feel afraid to share opinions
RC2	Taking an argument, breaking it down and identify if you agree or disagree with that	Identifying if something is wrong	Thinking about their own faith		Expecting some religious pupils say 'I am not comfortable doing that or I don't agree with that' and that's not a problem		
RC3a	What do you think about an issue, if you agree or not	Skill of evaluation	Forming their own conclusion or judgment about an issue, why do you think what you think, is it right or wrong?	They are encouraged to have respect for all of other pupils' beliefs	They are encouraged to challenge anything said in different religions and to be tolerant	We have different points of view but it's up to them to make their own decision about what they think	
RC3b	Ability to look at the body of knowledge from different number of angles	Not just saying it's wrong, say why it's not acceptable	To make a faith your own you have to think about it and question it	we listen to them when expressing their faith, respectfully	They are allowed to say questions and being in shoes of everyone,	Getting them to question it, to make faith their own, and not to say because my mum has this faith I have it	

Table 16 shows that although the cognitive and meta-cognitive skills are evident in all RE teachers' understandings of critical thinking, there is a difference in the way these skills appear in their views. This will be discussed below.

The cognitive skills of critical thinking, analysis and evaluation, were the most well-known skills for almost all RE teachers as my interviewees, and I could identify these skills explicitly in their understanding of critical thinking:

"...critical thinking is a mental activity, develops the mind in order to be able to analyse things and evaluate them... it's analysis and evaluation really at the end of the day" (ND1). (See more instances in second and third columns)

However, almost all RE teachers considered the meta-cognitive skill of critical thinking implicitly in their views, as seen in the following examples:

"They have to assess where they stand on an issue and then justify their own opinion" (ND5).

"It gets them thinking about what they think is right or wrong" (RC3a). (See more examples in fourth column)

Furthermore, as shown in Table 16, different dispositions of critical thinking can be identified in the teachers' responses. These include respectfulness, open-mindedness, willingness and self-confidence. Whilst there are some differences regarding the types of dispositions mentioned, these differences do not appear to form any pattern. These dispositions are considered implicitly by all these RE teachers, similarly to the meta-cognitive skills of critical thinking.

Consequently, according to Table 16, one of the key findings in this study is that the framework of critical thinking works, and it can be used to discover and analyse the elements of critical thinking in RE contexts.

Another important finding in the analysis of dispositions is to find 'respectfulness in facing divergent beliefs', as a new disposition mentioned by most of RE teachers in their responses

in interviews. This disposition is not only common in teachers' talk in interviews but is also emphasised in the main RE curriculum documents in both types of schools (described in Chapter 6). Examples of the evidence of a concern to develop the disposition of 'respectfulness' include:

"There is an ethos of respect here... it's fine to say why you don't agree with someone else as long as you have been respectful and being pretty open with them" (ND4).

"I encourage them to make their own judgment about things but also to be tolerant and respect for all of other pupils' beliefs" (RC3a).

The literature on critical thinking reviewed in Chapter 2, which was referred to during the stages of designing the framework of critical thinking (Chapter 5) in this study shows little evidence of 'respectfulness' as a disposition of critical thinking. As has been mentioned in Chapter 6, on analysis of curriculum documents, this disposition appears to be a specific disposition of critical thinking relating to the religious education subject area. Although I have not studied other curriculum subject areas in terms of critical thinking to find this disposition in those subjects, it seems that 'respectfulness in facing divergent beliefs' is more likely to appear in the context of religious education.

One explanation would be that, as mentioned in RERC in *Curriculum for Excellence*, although many pupils are of the Catholic faith in Roman Catholic schools, some are of other faiths or non-faith (Education Scotland, 2015c).

This is also very explicitly addressed in *This is our Faith* which, as has been discussed in Chapter 3, section 3.5.3, affirms the Church's respect for other religions and the need for Catholic schools and Catholic religious education to demonstrate this respect as part of the wider Catholic community.

This Therefore, it seems that, because of the multi-faith population of students in both types of schools, there is likely to be more awareness of issues relating to the multi-faith context. Consequently, the ethos of respect for others with different beliefs and opinions is necessary to development of critical thinking in pupils in such contexts. Thus, this framework of critical

thinking could be improved by adding this disposition to it. More explanation of the process of refining the framework will be given in the discussion chapter.

In addition, the comparison of different kinds of dispositions evident in teachers' understanding of critical thinking demonstrates that 'open-mindedness regarding divergent opinions' is common to 8 out of the 9 teachers. The other dispositions, 'respectfulness' and 'willingness to revise one's own views' are mentioned by 5 out of the 9 RE teachers. However, 'self-confidence', is only present in the responses of 3 teachers. Therefore, 'open-mindedness' seems the most common disposition, because of the multi-faith population of the students, even within Roman Catholic schools. 'Self-confidence', on the other hand, was mentioned less often than other dispositions by teachers in the sample. An explanation for less evidence of the 'self-confidence' disposition in interviewees' responses could be that it is likely to be too obvious and fundamental for teachers to talk about it. Alternatively, the small sample in this little research project might be the reason why this disposition is less mentioned by RE teachers when talking about critical thinking in religious education in their schools.

Moreover, there are two other dispositions in the framework of critical thinking developed in Chapter 5, 'fair-mindedness in appraising reasoning' and 'honesty in facing one's own biases and prejudices', which are not evident in the teachers' accounts. It seems that these aspects of critical thinking appear to be absent in the views of this small sample of RE teachers. These two missing disposition are likely to appear in research on critical thinking in other subject areas, or they might need deeper research on a bigger sample to be shown as explicitly present in religious education.

According to the analysis, it seems that the basic understanding of the teachers regarding constituent elements of critical thinking was more or less similar. Moreover, the type of the school in which they worked did not seem to have a significant influence on their understanding of aspects of critical thinking. Teachers from all the schools shared an explicit understanding about cognitive skills. Metacognitive skills were also evident, albeit implicitly, in their account of critical thinking. In addition, one or more types of dispositions were also implicitly observable in teachers' account of critical thinking, while the frequency of each type of disposition may differ. Whilst there are a few differences regarding some kinds of

dispositions mentioned by RE teachers in different schools, the similarities in their consideration of the other elements of critical thinking are more noticeable.

7.4. Overall Approaches to Critical Thinking

Although the understanding of the constituent elements of critical thinking were found to be almost the same or very similar across all the teachers in this study, then what makes a distinctive difference between teachers' understanding of critical thinking is their different approaches to the nature of critical thinking. Their approaches to critical thinking are the whole picture drawn from what they say and also what they say they do in terms of critical thinking in religious education in their schools. These approaches might show the difference in their thoughts and their actions, which may not necessarily fit with the definition of critical thinking in the framework I have developed.

Analysis of the data suggests that teachers' overall approaches to critical thinking fell into five main categories, as they explained their account of critical thinking in religious education. These approaches are presented in the following sections.

7.4.1. Critical Thinking Coherent with the Framework

One major conceptual contribution of this thesis, as discussed in Chapter 5, is the framework developed for the identification of general constituents of critical thinking. This is argued to be a general framework for the analysis of critical thinking, not only in religious education but in other fields.

Analysis of the interviews reveals the approach I am calling 'critical thinking coherent with the framework', which is evident where the teachers' views match with the framework and cover the recommended constituent elements. In other words, this approach to critical thinking is defined in line with the elements proposed in the framework of critical thinking developed in Chapter 5. Within this set of interviewees, it would seem that all the elements of critical thinking in accordance with the framework were mentioned by all the RE teachers in both sectors.

All other approaches had something different which went beyond the constituent elements, and what differentiates the approaches is the particular perspective they take to understanding critical thinking as a broad concept. While the teachers' perspectives of critical thinking were pretty similar in terms of the detailed constituent elements, they differed in terms of their 'big picture' or how they viewed critical thinking more broadly. This suggests that although the recommended framework works for identifying elements quite well, it is also necessary to take into account higher level approaches to conceptualising critical thinking, as suggested in the other approaches identified below.

7.4.2. Generalised View of Critical Thinking

One of the distinct and different approaches to critical thinking, which is found only in the responses of one of the teachers in a non-denominational school, is looking at critical thinking as general thinking and identifying all thinking as being critical. According to this view critical thinking is an essential part of being human, and all the time in our life we are:

"...Critically analysing our surroundings to survive" (ND3).

Therefore, based on this view, there is no difference between general thinking and critical thinking and whatever teachers do in every class, in RE or any subject areas, is critical thinking:

"What every teacher does in every class... it's almost going to be critical thinking"
(ND3).

Moreover, when pupils think about everything, ask questions and agree or disagree with something, that is all critical thinking, as well (ND3). Thus in this approach there is no difference between thinking and critical thinking and it is embedded in all activities in every class, whether it is identified by teachers as critical thinking or not.

It seems that this is a unique understanding of critical thinking which is not common between most of RE teachers in different schools. According to the literature, the term critical thinking has been used in different ways and developed over time. Although some researchers such as Pithers and Soden (2000) considered it to be synonymous with 'good thinking' or 'thinking well', this meaning is a rare one among scholars. In contrast, philosophers have always tried to clarify what is special in critical thinking which makes it different from thinking in

general. In this respect, Lipman (1988) differentiates critical thinking from simple thinking by saying that, unlike simple thinking, critical thinking offers opinions supported by evidence. Therefore, critical thinking is a specific kind of thinking which has its own elements, as identified and described in detail in the framework of critical thinking in Chapter 5. Thus this approach, which is a particular way of understanding critical thinking, does not match the definition of critical thinking in this research.

7.4.3. Critical Thinking as Formal Philosophical Thinking

An approach to critical thinking held by two interviewees, one in a non-denominational and one in a Roman Catholic school, is a formal, philosophical view of critical thinking. In this perspective, for the RE teacher in the Roman Catholic school, thinking and argumentation could have varying degrees of formality where the ‘real’ critical thinking is viewed as the highest level, level 3 in Table 17.

Furthermore, one RE teacher in a non-denominational school also took a philosophical view (ND1). However, he did not express this in terms of levels or degrees of formality. The key elements of critical thinking which he highlighted were identifying reasons for and against an issue, analysing and evaluating them:

“Critical thinking is, in my view, the exercise of mind ... to identify various factors and reasons which could be in favour of the issue and the other factors and reasons against it... It’s a very important mental activity develops the mind in order to be able to analyse things and evaluate them” (ND1).

The view of this teacher in ND1 is generally similar to the simple level of critical thinking in RMPS, stated as belonging to Level 2 in Table 17. Therefore, what is significant for the teachers taking this approach is that pupils have reasons for whatever they say and weigh those reasons in order to be logical and consistent. Thus, great emphasis is placed on logic, reasoning, and argumentation with a philosophical flavour, in development of critical thinking.

Table 17 shows different levels of formality of thinking, according to the interviewee in a Roman Catholic school. He expressed the belief that critical thinking has different levels from “*general style*” to “*simple*” and then “*academic critical thinking*” (RC2), as phrased by himself. These levels and their characteristics are listed in Table 17 (drawing on the interview data from RC2). This table compares the characteristics of critical thinking in core RE and RMPS in this Catholic school and critical thinking in RMPS in other schools, according to the responses I received from the teacher in RC2 school.

Table 17: Characteristics of different levels of critical thinking based on the degree of critical thinking formality

	Degree of critical thinking formality		
	Level 1	Level 2	Level 3
Characteristics	General style of critical thinking in core RE in this school	Simple critical thinking in RMPS in this school	Academic critical thinking in RMPS in other schools
	<ul style="list-style-type: none"> • Simple level of thinking • Open to thinking and raising questions • Sharing and experiencing within RE • Accepting somebody else has a different idea • Thinking about and expressing their own faith and ideas • Identifying if something is wrong and why 	<ul style="list-style-type: none"> • Quite simplified concept of critical thinking • Teaching how to argue formally • Systematically dealing with arguments • Looking at both sides of an argument and breaking it down • Identifying if they agree or disagree with an argument • Analysis and evaluation 	<ul style="list-style-type: none"> • Formalised process of critical thinking • De Bono thinking hats

According to this teacher's account, the general style of critical thinking is the simplest level of thinking (level 1) developed in core RE. In this level, encouraging students to think, asking questions, sharing ideas and even thinking about their own faith are the lowest level of critical thinking formality:

"... in relation to RE it's a general style of critical thinking, it's more getting them to express their own ideas and ... thinking about how they respond to certain situation and circumstances..., ... open to thinking and raising questions" (RC2).

In the next level (level 2) critical thinking is viewed by this teacher as the process of dealing with arguments philosophically, analysis and evaluation of arguments and teaching the argumentation formally. As the teacher said this level is regarded only in RMPS:

"... for RMPS it's quite simplified concept of critical thinking, we are looking at both side of an argument... taking an argument and systematically dealing with it is definitely a skill within RMPS" (RC2).

In Table 17, the highest level in developing critical thinking (level 3) is the academic and formalised process of critical thinking. The RE teacher in RC2 stated that this level of critical thinking was implemented in RMPS in some other schools he knew of, but that they did not have such a level of critical thinking in his Roman Catholic School. The teacher thought that applying De Bono thinking hats could be a formalised way of developing critical thinking in RMPS in this level, which was common in other schools, but not in their own:

"I know there are some schools who do go into the whole critical thinking in a more formalised process... and trying to do critical thinking of Edward De Bono and the hats, we don't have to do it in that way" (RC2).

This teacher identified what he thought was *"a huge difference"* between the teaching of core RE and teaching of RMPS in the ways in which critical thinking was applied in his school (RC2). In his opinion, critical thinking was developed only in RMPS and not in RE in his school, as he insisted *"... I was thinking we don't really do it at all"* (RC2). However, analysing and comparing the characteristics of the first and second levels based on

framework of critical thinking reveals that elements of critical thinking are present in his account of RE. In the first level, not only are the cognitive skills of critical thinking implicitly present in RE, but also meta-cognitive skills and dispositions can be found in the way core RE is taught in this school. These are the examples of the elements of critical thinking evident in RE:

- *“Identifying if something is wrong and why”*: evaluation and analysis skills (cognitive skills of critical thinking)
- *“Thinking about and expressing their own faith and ideas”*: self-regulation skill (meta-cognitive skill of critical thinking)
- *“Accepting somebody else has a different idea”*: open-mindedness (disposition) (RC2)

Therefore, it can be seen that all the elements of critical thinking were considered implicitly in RE in this school. Moreover, the comparison demonstrates that only the cognitive skills of critical thinking, which are analysis and evaluation of arguments, are addressed explicitly in RMPS:

“...the idea of analysis and evaluation in RMPS, that’s the way we have done it” (RC2).

Therefore, while all elements of critical thinking are developed in RE implicitly, it is regarded in RMPS deliberately and explicitly. This is due to the grading of critical thinking based on the degree of formality in this approach. In other words, when formal philosophical levels for critical thinking are drawn, only well-known skills of analysis and evaluation are regarded as skills of critical thinking. In addition, the meta-cognitive skills and dispositions, which are not as well-known and formal as cognitive skills, are ignored in the second level of critical thinking in this table and they could be seen implicitly in the lowest level of critical thinking. The absence of dispositions and meta-cognitive skills of critical thinking, which are the main parts of critical thinking, as formal elements of critical thinking in this approach, is the key criticism of this view. It seems that, based on the framework in this study, there is a diverse understanding of critical thinking, in the view expressed by this RE teacher.

7.4.4. Maturity Approach to Critical Thinking (Age Related)

There is a cognitive development approach to critical thinking evident in three interviewees’

responses, two in Roman Catholic and one in a non-denominational school. In this view critical thinking is the:

“Process of making youngsters aware of how the brain works and changes in puberty and how they understand things in a different level” (RC1).

Thus, based on this approach, the age of the pupils and their maturity are seen as significant elements in terms of their ability to think critically. Consequently, one of the main factors the teachers said they considered in choosing the resources was the ‘age and level of pupils’, emphasising that:

“... the age of children and how they are thinking... and the level of children are the biggest factor in deciding what would be the best source” (RC1).

This approach identifies that at the start of S3 students are in the stage of puberty, so:

“...they are not ready and mature enough to have the capacity of critical thinking and use it effectively” (RC1).

Thus the issues selected at different levels in RE and the way they developed critical thinking through these issues were different and related to the age of pupils. For instance, the teachers had a simpler approach to the topics further down school and then revisited those issues in more depth or taught other more difficult issues further up the schools:

“...we leave some of the more difficult topics to S3 and S4, like euthanasia, like crime and punishment” (ND4).

“we still look at the age of them, ...looking at the areas like prejudice, crime and punishment, these are moral areas that we think all have some effect on the life of others about the experience. And as they go further up school we revisit some of these issues in more depth” (RC2).

Additionally, one problem mentioned by teachers was that pupils might think they have learnt these issues in S1 and S2 and they know how to critically think about them, but when faced with the difficult topics like euthanasia in S3, it is difficult for them to analyse and evaluate

(ND4). The other problem in teachers' views is that self-regulation, the meta-cognitive skill of critical thinking, is a difficult skill for pupils in S3 and S4:

"...we try to get them to reflect, which quite a difficult skill is for S3 and S4 to reflect on why they agree or disagree with something..." (ND4)

It seems that in this view teachers are trying to make a relation between critical thinking, age of pupils and the difficulty of the topic. However, these are two distinct issues: one is the relation between ability of critical thinking skill and age, and the other is relation between difficulty of topics and critical thinking.

According to the literature the relationship between age and developmental readiness for critical thinking is an under-researched area, although there are some studies confirming an affirmative link between age and certain kinds of thinking skills (Lai, 2011). This means that education in critical thinking should be tailored according to the cognitive capacity of students, given that even young children could gain from critical thinking training (Kennedy et al., 1991). Lewis and Smith (1993) also comment that critical thinking is not just limited to the gifted individual.

Moreover, it is important to distinguish between the role of prior content knowledge of the topic and developmental readiness in critical thinking. While the teachers interviewed reported the importance of age and maturity in understanding of certain 'difficult' topics and also the necessary capacity to exercise 'higher' levels skills of critical thinking, they did not have explicit knowledge about the relationship between the two. As will be seen, prior knowledge about a topic plays a key role for the people to be able to critically think about it (Kennedy et al., 1991).

Jean Piaget was one of the most influential scholars in proposing child development theories. However, his stage theory of child development has been challenged with reference to some empirical evidence. According to Gelman and Markman (1986), empirical evidence does not support the hypothesis of fundamental age-related difference between young and older children. In addition, even if the stage theory is accepted, many students do not naturally progress to attain the abstract levels of thinking (Kennedy et al., 1991).

A developmental model of critical thinking proposed by Kuhn (1999, 2000) seems a seminal work in this regard. Relying on a large number of empirical studies, she proposed a developmental model of critical thinking focusing on metacognitive processes and argued for a progressive sophistication of critical thinking skills (Kuhn, 1999). In her conceptualisation of this developmental model of critical thinking, age limits are introduced as constraining factors to attain higher levels of metacognition. Nonetheless, age does not also seem to be a necessary condition of progression, because many older people may never attain higher levels if other conditions are not met (*ibid.*).

While it seems that there is general agreement among scholars that critical thinking ability improves with age, it is also clear that such ability in young children could be considerably increased by teaching these thinking skills, as well as depth of knowledge about the topic and familiarity with subject. In other words, it seems that there is an interdependent relationship between critical thinking and knowledge of the topic, in which they could reinforce each other. This means that part of what were previously understood as developmental constraints in cognitive abilities of certain age groups, are currently attributed to lack of knowledge and enough information about a particular topic (Kuhn, 1999& 2000; Kennedy et al., 1991).

However, it is not still clear for researchers in the field what are the specific constraints for critical thinking in different age groups that could be conceptualized in a developmental theory of critical thinking. There is also no theoretical framework explaining how depth of knowledge in the particular domains interacts with critical thinking skills and dispositions. This lack of understanding might be one reason why teachers interviewed could not differentiate the role of ‘difficulty’ of the topic and ‘lack’ of enough thinking capacity.

7.4.5. Critical Thinking as Intertwined with RE

In this approach, six teachers perceive a strong interconnection between critical thinking and RE, where teaching religious education, by nature, implies critical thinking. Most of the RE teachers regarded RE as a special area of critical thinking. In comparing critical thinking in RE and other subject areas, the majority of the RE teachers expressed the belief that critical thinking is naturally a big part of RE, because of the nature of the particular issues in RE.

Thus, because RE deals with moral issues and beliefs, critical thinking is more explicitly expressed in RE than other subject areas. (ND2, ND3, ND5, RC1, RC3a and RC3b):

“I think, probably unlike some other subjects, critical thinking is always part of RME” (ND2).

“We always did it in RE, because that was the nature of the subject that gets pupils to question and to think and to come to sort of conclusion that they can back up with their own reasoning” (ND5).

“I think RE is absolutely even the home of critical thinking...I think it’s a big part of the subject...I think a kind of application we use within RE engage pupils more than other subjects, because it’s related to life and beliefs and ideas...” (RC1).

However, only two of the teachers interviewed took the particular and more extreme approach to critical thinking in RE and believed that RE is entirely critical thinking (RC3a and RC3b). In this extreme view, evident in the interviews with two RE teachers in the same Roman Catholic school, they thought that they could not imagine teaching RE without being open to critical thinking:

“We can’t really teach RE without having openness to critical thinking... I don’t know how you could teach it without having critical thinking...you can’t really have one without the other one” (RC3a).

“I think RE it’s all about critical thinking because religious education is not just religious knowledge it’s about thinking and impact and reflection...” (RC3b).

The analysis of these perspectives suggests that most of these RE teachers believe in the strong interconnection between critical thinking and RE. While 6 of them think of critical thinking as the major part of RE, others take a more extreme approach claiming RE is all critical thinking.

It seems that an explanation of this extreme approach to critical thinking from two RE teachers in Roman Catholic school could be because of the multi-faith population even in those types of schools in Scotland. In this situation they have to be open to all different views and beliefs, given the diversity of the worldviews among pupils. Even within the confessional

approach to RE which is dominant in Roman Catholic schools, they need to have such openness to all other views, so that all RE is in a sense intertwined to critical thinking. A reason to see this approach in two RE teachers in the same Roman Catholic school might be the interaction of those teachers with each other in that particular school. However, the interesting point is that this extreme claim is made only by these two RE teachers and the teachers in the two other Roman Catholic schools have different approaches to critical thinking. The comparison of all the teachers' understanding of critical thinking is discussed in section 7.5.

7.5. Similarities and Differences in Teacher's Understanding of Critical Thinking in the two Types of Schools

Comparison of teachers' understandings of critical thinking can be carried out both in terms of the elements in the framework of critical thinking which they point out and of their overall approach. This comparison comprises the perceptions of RE teachers within each sector and across the two sectors.

As stated in section 7.3.1, the teachers' explanations of core elements of critical thinking in both types of schools demonstrated almost no meaningful differences between them. Accordingly, it seems that the teachers' perceptions regarding constituent elements of critical thinking were more or less similar and the type of the school in which they were working did not seem to have a significant influence on this aspect of critical thinking.

Nevertheless, the main similarity in RE teachers' approaches to critical thinking is the 'critical thinking coherent with the framework' evident in all teachers' views in different schools. Finding this common foundation among the diversity of views evident in those from different schools confirms the workability and originality of this framework. It demonstrates that this framework could be a practical tool to look for the elements of critical thinking in teachers' accounts of critical thinking. Their accounts consist of all teachers' views, RE or other subject areas, in different types of schools. The framework provides an explicit conceptual model for the critical thinking which is drawn from literature, and is consistent with implicit accounts I found in teachers' understanding. Thus the general framework of critical thinking designed in Chapter 5 of the study could be a base for development of

critical thinking, not only in religious education but also in a variety of subject areas in education. Although originally developed from the literature, it has also strong empirical support in the sample of views I analysed. Although there are two dispositions which did not appear in this small sample, this does not affect the workability of this framework. They are likely to be present in deeper research into the analysis of critical thinking in a larger sample or even in subject areas other than RE. Moreover, finding ‘respectfulness’ as a new disposition specific to RE could help me to refine this general framework of critical thinking. However, we do not know whether this disposition will be present in an analysis of critical thinking in other curriculum areas. Thus, finally, there is a generic framework of critical thinking applicable to all subject areas, and by adding ‘respectfulness’ to the dispositions there will be a specific framework of critical thinking in religious education.

Furthermore, the other common approach among the majority of RE teachers in different schools (three in non-denominational and three in Roman Catholic) is the view of critical thinking as ‘intertwined with RE’, repeated in 6 out of the 9 cases. This means that there is a common view between these RE teachers that critical thinking has a specific and significant role in religious education, such that teaching RE without involving pupils in critical thinking cannot be imagined. Further explanation of the similarity and differences in teachers’ perceptions of critical thinking is given in Chapter 8.

Comparison of the RE teachers’ approaches to critical thinking demonstrates the distribution of these different approaches across all teachers, particularly the teachers in non-denominational schools. Among the approaches of the teachers in this type of school, the generalised view of critical thinking is a unique view held by only one of the RE teachers (ND3) in a non-denominational school. This distribution in teachers’ perceptions of critical thinking reveals that teachers in different schools appeared to understand critical thinking in different ways, even in the same sector.

The key finding drawn from comparison of Roman Catholic schools is that the same approach (Maturity) were shared by two RE teachers in the same school (RC3a and RC3b) and also two teachers in the other Roman Catholic schools (RC1 and RC2) had the same view of critical thinking (intertwined with RE). It seems that even in Roman Catholic schools there

is not a similar pattern to be followed by all RE teachers and the type of school does not, at least in my sample, appear to influence their accounts of critical thinking.

It seems that there is not a unique, curriculum-based source for RE teachers in the same types of school (non-denominational or Roman Catholic schools) to help them develop their understanding of critical thinking. Therefore, their views of critical thinking have been shaped by their variety of personal or professional backgrounds. This is apparent from their responses to the question asking them to describe what shapes their understanding of critical thinking. Table 18 lists the factors teachers mentioned which shape their understanding of critical thinking and illustrates the diversity of these factors. Although the teachers indicated different courses influential in this process, none of them reported using the national documents to understand critical thinking, although they were fully aware of the national RE documents. This shows that these documents failed to provide a comprehensive meaning of critical thinking for teachers. This was also one of the findings of analysis of RE documents in Chapter 6. This crucial finding is explained in detail in Chapter 8.

Table 18: Factors shaping RE teachers' understanding of critical thinking in different schools

Teachers in different schools	Factors shaping understanding of critical thinking
ND1	Philosophy course in university
ND2	Workshop on critical thinking Teacher textbooks
ND3	Formally: theology degree Informally: human nature, personal thing
ND4	Training as RE teacher ATRES conference
ND5	Life experience
RC1	Own experience of university and then school
RC2	Philosophy of education course
RC3a	Life skill, an aspect of being RE teacher
RC3b	Spiritual development or psychology course Part of RE

7.6. Teachers' Knowledge Regarding Critical Thinking in Key RE Curriculum Documents

One of the interview questions aimed to explore the RE teachers' knowledge of critical thinking as presented in key curriculum documents of religious education. As they pointed to two distinct documents, the RME part of *Curriculum for Excellence* in non-denominational schools and *This is our Faith* in Roman Catholic schools, their knowledge of critical thinking in each of those documents is regarded separately. However, RE teachers in Roman Catholic schools highlighted only the new document, *This is our Faith*. In their views this recent document covers all the experiences and outcomes of RERC in *Curriculum for Excellence*, and therefore there was no need for them to be addressed separately.

The teachers' responses to how critical thinking is represented in the RE curriculum documents were based on their understandings of critical thinking. Their perceptions are very important as their understandings might shape the curriculum used in practice. The interview data were coded, then the coded data organised into 3 emerging themes, as shown in Table 19. These themes are 'levels of thinking skills', 'implicitness of critical thinking' and 'ambiguity'. The first theme refers to the differences in thinking skills identified by teachers as the skills of critical thinking evident in the documents. The second one shows how explicitly or implicitly the teachers thought critical thinking was presented in the documents. The last theme emerged when there were vague answers signalling that in the documents they perceived no clear or certain ideas for teachers, regarding critical thinking.

Table 19: Codes and themes for RE teachers' knowledge of critical thinking in RE curriculum documents

Codes	RE Teachers	Themes
Analysis and evaluation	RC3a, ND2, ND3, ND4	Differences in skills presented as the evidence of critical thinking
Reflection	RC2, ND3, ND5	
No analysis and evaluation (only simple level of thinking)	RC2	
Embedded	RC3a, ND3, ND4, ND5	Implicitness of critical thinking
Debate	ND1, ND4	
Dealing with ultimate questions	ND1	
Not easy to find	RC1	Ambiguity
Encounter rather than critical thinking skills	RC3b	

The first theme reveals that the majority of RE teachers (6 out of 9) pointed to different thinking skills as the evidence of critical thinking in documents. It is important to note that the teachers' answers to the question about how critical thinking is presented in RE documents is not necessarily the same, as their conception of critical thinking might be different. For example, a teacher from RC2 clearly distinguishes his version of critical thinking from other versions which, in his view, exists in the document:

“My view of critical thinking which is linked to this idea of you of taking an argument and then breaking it down is not available in This is our Faith. But this idea that what do you think, how do you view this, and what is your belief about something and express that, that does exist in This is our Faith, but it is quite simple level of thinking” (RC2).

As a result, in analysing the answers about critical thinking in curriculum documents, the teachers' particular approaches of critical thinking should be considered. In addition, different teachers held conflicting views. While four of the teachers asserted that analysis and evaluation is clearly there in the documents (RC3a, ND3, ND4 and ND5), the teacher from RC2 held an individual and opposite view, which is not fitted to the framework of critical thinking. This discrepancy shows that individual teachers read different things into the documents, and as shown in the analysis of documents in Chapter 6, the RE documents do not present a clear definition of the concept of critical thinking. Consequently, it seems that the combination of these two points leads to a diversity of interpretation by different teachers.

The second theme addresses the way critical thinking appears in the documents, according to the teachers, implicitly or explicitly. Almost all of the RE teachers believed that there is no 'explicit' use of the term critical thinking in the documents. While some only argued it is embedded in whole document, others pointed to subjects like 'debate' and 'ultimate questions' that deal with critical thinking implicitly:

“...debate appears quite a lot in RMPS, Experiences and Outcomes, so you would have to be able to critically think to be able to debate” (ND4).

“...within RME, that's where most of them are to be found, the way pupils, for example, would deal with ultimate questions, how they would seek to resolve those

ultimate questions, how they would try to think them through, what sources they would deal with and how they would express answers to them” (ND1).

The last theme, ambiguity, emerged when no clear teachers’ knowledge of critical thinking in the documents was discerned. In other words, they seemed unable to provide a clear answer to my question. The teacher in RC1 school said that *This is our Faith* is a new document, different from *Curriculum for Excellence* documents, so it is a challenge. Her emphasis on the challenging nature and novelty of the documents suggests that, at the time of interview, she perhaps had not yet had an opportunity to review the document regarding critical thinking:

“That was my big concern about this document. It’s a very different style and a very different methodology..., it doesn’t come as naturally as it did before and maybe it’s because we are just starting now and feels a little bit different or I don’t know but it’s my gut feeling is not as easy with this as it was before. It’s a challenge” (RC1).

The explanation on the relation between these themes of teachers’ understanding of the integration of critical thinking in curriculum documents and the result of the analysis of the RE documents will be discussed in Chapter 8.

7.7. Summary of Findings

The key findings of the analysis of RE teachers’ perceptions of critical thinking are listed as:

- The similarity in expression of elements of critical thinking in their understanding
- Differences in teachers’ overall approaches to critical thinking
- The similarity in expression of dispositions in their perceptions
- ‘Respectfulness in facing divergent beliefs’ as a new disposition evident in their accounts of critical thinking
- Low level of awareness of approaches to developing critical thinking in pupils
- Lack of complete knowledge amongst teachers of integration of critical thinking in RE curriculum documents

7.8. Conclusion

This chapter has presented the results of the thematic analysis regarding teachers' perceptions of critical thinking, drawn from the interview data. The interviews were analysed from two different perspectives in order to reveal the teacher's perceptions of critical thinking. The first perspective was to discern the extent to which elements of the critical thinking framework proposed in this study were addressed in teachers' accounts of critical thinking. The second was to perceive the overall approach by which the teachers defined critical thinking and its integration in the RE curriculum. The analysis revealed that, despite the similarity in expression of critical thinking elements by all teachers, they showed different approaches to critical thinking in their perceptions. The teachers' overall approaches to critical thinking in this study comprised 'critical thinking coherent with the framework', 'generalised view of critical thinking', 'formal philosophical', 'maturity' and 'intertwined with RE'. Having compared both the elements of critical thinking expressed by teachers and their approaches to critical thinking, interesting findings were revealed. The most important one was that there was no pattern in understanding of critical thinking among teachers in the same sector. In other words, it seems that the sector they are working in does not influence their perception of critical thinking. Finally, I reviewed the teachers' knowledge of RE curriculum documents, which provided interesting insights to understand how curriculum documents had shaped the teachers' accounts of critical thinking in religious education. In the next chapter all the findings of these three chapters (5, 6 and 7) are combined and discussed in detail.

Chapter 8: Summary and Discussion

8.1. Introduction

Although critical thinking is not a very new concept in education, it has recently attracted the attention of both education scholars and education curriculum designers, particularly in Scotland. Scotland's *Curriculum for Excellence* positions critical thinking as one of the central aims of the education system in general and specifically in different subject areas (*Curriculum for Excellence*, 2015). However, there is a lack of understanding about how, and to what extent, critical thinking is integrated in the education of different subject areas and at different levels of education.

As described in the introduction, the integration of critical thinking in religious education appeared as a very attractive and important topic for academic research, for two main reasons. First, the integration of critical thinking in religious education seems a paradoxical situation. On the one hand, the very fundamental questions addressed in this subject area create a very fertile environment for nurturing critical thinking. On the other hand, some of the traditional approaches to religious education which involve confessional and doctrinal methods may not be totally aligned with the core idea of critical thinking. Second, unlike other subject areas, such as social science (Alazzi, 2008; Kanik, 2010), mathematics (Innabi et al., 2007) and science (Barak, 2007; Alosaimi, 2013), the integration of critical thinking in religious education has not been subject to previous scholarly research.

This paradoxical situation offers a unique instance for examining the integration of critical thinking in educational curricula. In addition, the availability in Scotland of two sectors of education (non-denominational and Roman Catholic) provides a setting in which to explore the integration of critical thinking in sectors in which different approaches to religious education are taken.

This study was designed to investigate how critical thinking is integrated in religious education focusing on curriculum documents and teachers' accounts in non-denominational and Roman Catholic secondary schools in Scotland. Given the central role of teachers as the

agents of change in *Curriculum for Excellence* (SEED, 2006), how they understand critical thinking will be instrumental in how it is introduced in the classroom. As a result, a focus of this study is to explore teachers' accounts of critical thinking.

In addition, we know that national curriculum documents are often one of major sources shaping teachers' perceptions and practices, because they provide a set of principles and objectives to define the salient points which should be addressed by teachers in the classroom. As a result, another part of the study was the analysis of the most recent national curricula documents relating to religious education. The aim was to understand how critical thinking is conceptualised in these documents and to what extent they were implicated in shaping teachers' account of critical thinking.

Accordingly, the research questions were posed as follows:

1. What is an appropriate framework for the analysis of critical thinking in religious education?
2. What types of critical thinking are evident in the relevant national curriculum documents of religious education?
3. How do RE teachers of S3 in non-denominational and Roman Catholic secondary schools understand critical thinking?
4. What are the similarities and differences in teachers' understanding of critical thinking in the two types of schools?
5. What is the role of RE curriculum documents in shaping teachers' understanding of critical thinking in religious education?

In this chapter I review the main findings of this study which answer the research questions, followed by a discussion of the conclusions drawn from the findings and their implications for theory and practice with regard to each research question. The findings are presented under three headings: the conceptual framework of critical thinking in religious education (to answer the first research question) in section 8.2; the integration of critical thinking in RE

curriculum documents (to answer the second research question) in section 8.3; and teachers' understanding of critical thinking in religious education (to answer the third and fourth research questions) in section 8.4. This section also combines the results drawn from different parts of the study to answer the last research question with regard to the role of curriculum documents in development of critical thinking in religious educations.

8.2. Conceptual Framework of Critical Thinking in Religious Education

The analysis of the integration of critical thinking in religious education, as the central purpose of the study, required a conceptual framework of critical thinking which could be applied to investigate both teachers' accounts of critical thinking and also the way it is reflected and conceptualized in curriculum documents.

As mentioned in Chapter 5, my deep investigation of the available literature on critical thinking frameworks showed that there was no appropriate framework for the purpose of my research, as none of them include all the elements necessary for the analysis of data in my study. Thus I developed a new one, based on the well-known frameworks of thinking skills and critical thinking. This operational framework of critical thinking is one of the original contributions to knowledge of this research. It was used to analyse and compare religious education curriculum documents and also teachers' perceptions of critical thinking in the two different sectors. In the following section, I discuss the featured aspects of the proposed framework which differentiate it from existing ones and its contribution to the theoretical literature of critical thinking, as a workable framework both for the analysis of religious education and for other subject areas.

8.2.1. Distinguishing Aspects of This Framework

In order to analyse the integration of critical thinking in curriculum documents of religious education, I needed a framework covering not only the elements of critical thinking but also the levels lower than critical thinking skills. The conventional frameworks of thinking skills such as Bloom's taxonomy (Bloom, 1956) and Anderson and Krathwohle's revision of Bloom's taxonomy (Anderson and Krathwohl, 2001) were not appropriate, as they did not cover certain elements of critical thinking, such as meta-cognitive skills or dispositions.

Moreover, the absence of lower level thinking skills as a comparison baseline for critical thinking skills in available frameworks of critical thinking such as (Ennis, 1987, 2011; Paul, 1993; Halpern, 1997) was a disadvantage which meant they could not be chosen for my study. Therefore, I developed a specific framework of critical thinking in order to analyse and compare the position of critical thinking in RE curriculum documents and also teachers' perceptions of critical thinking in religious education which compensated for these two deficiencies. The particular aspects of this framework which distinguish it from the current ones reviewed in Chapter 5 are that this framework:

- Has a hierarchical structure;
- Includes lower level thinking skills;
- Covers higher level or critical thinking skills (cognitive and meta-cognitive);
- Includes dispositions of critical thinking;
- Has distinctive and broad levels (categories) to show the differences in integration of critical thinking in documents of two sectors;
- Includes simplified elements in each category, by focusing on major skills and putting aside minor details or sub-skills which make the comparison of critical thinking difficult;
- Comprises core and common elements in each category for which there is no serious disagreement among most other scholars regarding placing them in that category in their frameworks.

Having designed the framework of critical thinking with these specific aspects and the elements in each category, I used it to analyse the RE curriculum documents and the teachers' interviews. The empirical validity and workability of this framework which was developed thorough systematic reviews of the literature on thinking skills and critical thinking is evaluated in the context of religious education, as discussed in the next section.

8.2.2. Workability of the Framework in Analysis of Teachers' Accounts and RE Curriculum Documents

In order to analyse RE curriculum documents, I applied the designed framework of critical thinking to these documents. First, I searched for the term critical thinking and the elements of the framework, lower level skills, higher level cognitive and meta-cognitive skills and

dispositions. I looked for both explicit and implicit occurrences in all the RE documents. The summary of the content analysis of all the RE documents was presented in Table 12. Finding all the elements of this framework in the RE documents suggested the workability of the framework. Furthermore, applying this framework to the documents and finding the evidence of lower and higher level thinking skills allowed me to find out whether the emphasis was on development of lower level skills or critical thinking skills. In other words, using the framework to analyse the RE documents showed whether the documents encouraged the development of critical thinking skills or were focused only on the lower level skills as the basic skills for pupils. I particularly looked for the lower level thinking skills evident in *Experiences and Outcomes* of S3 level in the documents. The interesting finding was that there is more emphasis on lower level skills rather than critical thinking skills in the experiences and outcomes. Consequently, it appears that, even at S3 level, pupils were not expected to be able to apply critical thinking skills in the subject area of religious education. This finding is discussed further in section 8.3.1.

I also analysed the interviews conducted with RE teachers in both sectors according to this framework, in order to examine their understanding of critical thinking. Applying the framework to the analysis of the interviews showed me whether teachers were aware of critical thinking skills and dispositions as the elements of critical thinking and pointed to them or not. Therefore, I could compare what was perceived and defined by teachers as critical thinking with the elements of critical thinking in the framework. As will be mentioned in section 8.4.1.1, the explicit and implicit incidences of the elements of framework in teachers' accounts of critical thinking confirmed the workability of this framework. Accordingly, it can be proposed that this framework could serve as a conceptual and practical tool to look for the elements of critical thinking in teachers' understanding of critical thinking as well.

The results of the analysis of RE curriculum documents and RE teachers' accounts of critical thinking confirm that this framework works well in the context of religious education. Although originally developed from the literature, it also has some support from the sample of interviews and the curriculum documents I analysed. An analysis carried out according to this framework can capture and compare the elements of critical thinking in an RE curriculum. Therefore, it can be used as an operational tool for researchers or curriculum

designers to analyse RE documents and resources (as discussed in the following section) and teachers' perceptions of critical thinking in RE.

In line with Bloomberg and Volpe (2008), I found that the proposed framework is well-designed, in that it provides “categories” and “descriptors” which play the role of “scaffolding” for the research and organize the research findings. Additionally, the elements of the framework play the role of “sensitizing concepts”, which in an information-rich setting such as religious education can illuminate the use and meaning of the term critical thinking (Patton, 2014, p.292). As a result, I am confident that the same framework could be applied for a more comprehensive analysis of religious education which includes the whole curriculum in terms of teacher approaches, practices and resources. In addition, applicability of the framework in other subject areas is possible, as discussed in the next section.

8.2.3. Applicability of Framework to Other Subject Areas

The research on critical thinking in a variety of subject areas, such as science (Malamitsa, et al., 2009; Alosaimi, 2013), social science and technology (Kanik, 2010), mathematics (Innabi et al., 2007), demonstrates that critical thinking is a general concept which has the ability to be applied and developed in different subjects. This is a significant point that was considered in designing the framework of critical thinking in this research. As a result, all the elements of this framework, the general skills and dispositions, are not specific only to religious education. In other words, this framework has the potential to be applied and used for analysis of other curriculum areas. It means that it has the capability to analyse the integration of critical thinking in curriculum documents of subjects other than religious education, as well as being an appropriate tool to investigate the perceptions of critical thinking in other subject areas. As a result, this framework of critical thinking is a conceptual and practical tool for teachers and policy makers to not only make sense of critical thinking themselves but also to investigate the perceptions of others, resources, and curriculum and policy documents in terms of critical thinking.

8.2.4. Improvement of the Framework through the Research

As mentioned in Chapter 5, the designed framework of critical thinking was not a fixed and

unchangeable one. Rather, I was open to refining it in the light of the results of this research. Analysis of the data revealed a new disposition not present in the framework but evident in both RE curriculum documents and teachers' interviews. This disposition was labelled as 'respectfulness in facing divergent beliefs'. Although 'respect' was seen as a disposition in previous studies such as in Bailin et al. (1999) and Kanik (2011), it was not the common one emphasised in the well-known frameworks of critical thinking. Furthermore, the way 'respect' was mentioned as a disposition was different from what I found in my data. Bailin and his colleagues defined some general form of respect such as "respect for reason and truth", "respect for others in group inquiry and deliberation" and "respect for legitimate intellectual authority" as the dispositions of critical thinking (Bailin et al., 1999, pp. 294, 295). The possible reason for the appearance of this disposition in the context of religious education as a finding of this research will be discussed in section 8.3.4.

According to the data analysis, this disposition was identified in the form of 'respect for people with different beliefs'. Although this less cited disposition of critical thinking appeared in the context of religious education, there is a possibility it might be evident in other subject areas as well. However, further research on dispositions of critical thinking in other curriculum areas is required to explore this issue. What differentiates the incidences of this disposition in RE from other subjects is that in religious education the emphasis is on respecting divergent religious beliefs, which otherwise might have serious consequences of tension and violence in a multi-faith society. However, it is not the case in other areas that respect for any other views and ideas, such as scientific opinions, is addressed. Therefore, while 'respect for different views and ideas' might be found in other areas, as considered by Kanik (2011) in the context of mathematics and science, 'respectfulness in facing divergent beliefs' is likely to be a particular disposition of critical thinking in the context of RE.

Accordingly, the addition of this particular disposition offers a rich and improved framework of critical thinking which is specifically appropriate for the analysis of critical thinking in religious education. Thus, this framework can be applied by researchers to explore and compare the position of critical thinking in the religious education curriculum in different sectors. This exploration comprises RE resources, RE curriculum documents and teachers' understanding of critical thinking.

8.3. Integration of Critical Thinking in RE Curriculum Documents

Having developed the framework of critical thinking, I applied the framework to RE curriculum documents of two different sectors, non-denominational and Roman Catholic. These documents, as described in detail in Chapter 3, consist of the RME documents of *Curriculum for Excellence* for the non-denominational sector and the RERC documents of *Curriculum for Excellence* and *This is our Faith* for the Roman Catholic sector. The main aim was to explore how critical thinking is conceived and conceptualized in these national documents which are specific to religious education. Additionally, I examined the similarities and differences in the incorporation of critical thinking in the documents of the two sectors in order to understand whether different curriculum developers may provide different pictures of critical thinking and explore possible reasons behind these differences. The key findings of this analysis and the possible implications for theory and practice are discussed in the remainder of this section.

8.3.1. Similarity in Emphasis on Lower Level Skills in RE Documents of Both Sectors

Exploring the elements of the framework in the RE documents revealed that lower level thinking skills and all the elements of critical thinking were evident to some extent in all the RE documents. Although these documents were similar in this respect, a more important similarity was discerned by comparing the numbers of lower level thinking skills and sub-skills incorporated against the number of higher level skills of critical thinking. This revealed the large number of lower level skills compared to the small number of critical thinking skills in the RE documents of both sectors. Although lower level thinking skills are the basic and prerequisite skills of critical thinking, emphasising them more than higher level skills decreases the possible integration of critical thinking in the curriculum documents. Not only was this emphasis found in the *Principles and Practice* documents, but also lower level skills were surprisingly highlighted in *Experiences and Outcomes* of S3 (fourth level) in all RE documents. This means that the documents put much more weight on the engagement of pupils up to S3 level in lower level thinking skills in RE, while on the other hand the documents claim that teachers are expected to develop critical thinking skills in pupils through religious education (see section 8.3.2). However, pupils need to become prepared for the National Exams at the end of S4 and Highers in S5, in which they are expected to apply

higher level thinking skills in the lessons and assessments. Given the limited attention to critical thinking in the *Experiences and Outcomes* of S3 while also expecting them to develop the skills of critical thinking in S4 and S5, raises the question of whether pupils are being expected to make a huge leap from S3 to S4.

An overall review of the *Experiences and Outcomes* of S3 level in other curriculum areas in *Curriculum for Excellence*, expressive arts, health and wellbeing, languages, mathematics, science and technologies, showed similar results in terms of the relative focus on lower level thinking compared to higher level thinking skills (see section 6.3.1). The only exception is ‘social studies’, where critical thinking skills in the *Experiences and Outcomes* of S3 are strongly emphasised.

One possible explanation of this similarity among all curriculum areas could be based on the view of curriculum designers on the relation between age of learners and development of critical thinking. There might be a current view among curriculum designers of different subject areas that at S3 level pupils are not ready to develop higher level skills and reflect on their own thoughts. This view was also common among some of the RE teachers interviewed. However, the empirical research on development of critical thinking shows that pupils at all levels of abilities can benefit from critical thinking (Kennedy et al., 1991) and there is not a specific age when they are ready to learn complex kinds of thinking (Silva, 2008). This developmental perspective to critical thinking among RE teachers was described in section 7.4.4 in Chapter 7, and its implications for the RE curriculum will be discussed in Chapter 9 in more detail.

The exemption of ‘social studies’ might be due to the nature of issues addressed in this subject which naturally requires pupils to engage in critical thinking earlier than other curriculum areas. However, the issues covered by religious education seem to be as critical as the issues addressed by social studies, if not more so. Religious education is the specific curriculum area which deals with crucial issues like ultimate questions and beliefs. Therefore, and as the majority of RE teachers stated, RE naturally involves critical thinking. In this respect it might be expected that curriculum designers would provide more encouragement to learners to develop critical thinking skills through religious education, even in the lower stages in secondary schools. Teaching RE without engaging pupils in higher levels of

thinking skills reduces the subject to knowledge about religion, which will not be engaging and motivating for pupils, and may reduce their chances of wanting to take RE as an optional subject later, at a higher level. According to the empirical studies supporting the idea that young children are capable of thinking critically (e.g. Heyman and Legare, 2005; Jaswal and Neely, 2006; Willingham, 2007), the higher order thinking skills of critical thinking can be developed through RE in the early stages. As a variety of different issues with different levels of complexity are discussed in RE, I would propose that in the early stages pupils could be critically engaged in the simpler issues and reflect on them, to practise critical thinking in RE. Subsequently, critical thinking skills could be further developed in the higher stages, but through more difficult and complex issues.

8.3.2. Similarity in Development of Critical Thinking in the Process of Teaching and Learning RE

Investigating the term critical thinking in the RE curriculum documents of the two sectors, demonstrated the similarity in the degree of integration of critical thinking in these documents. In all RE curriculum documents development of critical thinking was identified as “one of the purposes of learning religious education” (Education Scotland, 2015a, p.1; Education Scotland, 2015c, p.2; *This is our Faith*, 2011, p.9). In addition, all documents similarly expressed the development of critical thinking as a duty of teachers in planning the teaching of RE and as a feature of assessment as described in both RME and RERC documents (Education Scotland, 2015a, p.2 and p.4; Education Scotland, 2015c, p.3, p.4). In other words, teachers should encourage the development of critical thinking as an *outcome* of RE, where pupils must show their progress through their ability to think critically.

Therefore, critical thinking is intended to be present in the whole process of learning and teaching in religious education, from its purpose, to the teaching and learning, and its assessment. The conceptualization reflects the significant and similar position of critical thinking in relation to religious education in the documents of both sectors. Therefore, all RE curriculum documents have similarly captured the crucial position of critical thinking in religious education by considering it in the process of teaching and learning RE. According to the literature of critical thinking, it seems that the subject-specific approach to critical thinking is offered in these documents, and while the development of critical thinking is

explicitly integrated in RE, the infusion approach (Paul, et al., 1999) to teaching critical thinking in the domain of religious education is considered (see section 2.5).

However, this is the first step and there are other steps to be taken in order for development of critical thinking in RE to occur in practice. The next step in this procedure is teachers' considerations of and attempts to develop critical thinking based on these RE documents. In this respect, it is expected that these documents should present a clear idea about the exact meaning of critical thinking and the approaches and methods for its development. Unfortunately, this part seems to be missing in the documents, potentially inhibiting such a crucial concept as critical thinking from entering properly into the RE classrooms in schools. The result of my analysis of documents with regard to this issue is addressed in the next section. In addition, the other key point in development of critical thinking in the domain of religious education is teacher education. Previous studies have highlighted the effect of special training for teachers in teaching critical thinking compared to integration of critical thinking in the curriculum simply as an instructional objective, and suggested professional development for teachers on teaching critical thinking (Abrami et al., 2008). Therefore, the incorporation of critical thinking elements in the RE curriculum alone is not sufficient and it should be combined with teacher education specifically for elucidating the clear meaning of this concept and how to develop it in religious education.

8.3.3. Vagueness of Documents in Defining and Developing Critical Thinking

As mentioned in the section 8.3.2, critical thinking plays an important role in teaching and learning in religious education. However, there is neither a clear definition of the meaning of critical thinking nor a statement of the methods showing how to develop it through religious education in any of the RE documents which I analysed. This is particularly surprising in relation to *This is our Faith*, as it is the supplementary guidance for RERC and full understanding of the principles and practice of RERC can only be achieved by reading them in conjunction with *This is our Faith* (Education Scotland, 2015c).

According to the literature reviewed in Chapter 2, critical thinking is a contested concept with no common agreement about its meaning among various writers. Thus the clarification of the concept of critical thinking seems necessary in RE documents. Given that no clear definition

of critical thinking is provided in the documents, vagueness and confusion over the meaning and development of critical thinking dominates these documents. In this situation, teachers who are in charge of implementing these documents are likely to remain unclear about the meaning of critical thinking and how they would be able to develop it in RE. Consequently, teachers might find it difficult to achieve one of the aims of religious education which is developing critical thinking in learners. The result of interviews with RE teachers also confirmed this challenge. Due to the weakness of the documents in introducing a clear definition of critical thinking in RE, RE teachers referred to sources other than the curriculum documents, resulting in different and sometimes incomplete and/or incompatible understandings of critical thinking as applied in RE. This result will be discussed in the section 8.4.1.2 under the findings of teachers' interviews.

One recommendation to address this weakness of RE curriculum documents is to provide a clear, comprehensive and consistent definition of critical thinking in the documents. In addition to theoretical clarification of critical thinking as a significant element in learning and teaching RE, the RE teachers need to be educated and guided on the development of critical thinking in practice.

8.3.4. 'Respectfulness in Facing Divergent Beliefs' as a New and Frequently Used Disposition in RE

Having searched the dispositions of critical thinking in RE documents, two dispositions were found frequently in all RE documents. One of them was 'open-mindedness' which already existed under the disposition element of my critical thinking framework. The other was a new one which I labelled as 'respectfulness in facing divergent beliefs'. This disposition had not been previously considered in the framework of critical thinking. The reason for the absence of this disposition in the designed framework of critical thinking was that it was not present in the most-cited definitions and frameworks of critical thinking, such as those of Ennis (2011), Paul (1993) and Halpern (1997). Although other forms of 'respect' were found as a disposition of critical thinking in previous studies (see section 8.2.4), respect when someone is "facing divergent beliefs" has been rarely addressed. The considerable evidence of respect for divergent beliefs, not only in all the RE documents but also in teachers' discourse on critical thinking, might indicate its particular connection to religious education,

recommending it as a likely specific or of top-priority disposition for critical thinking in religious education.

A possible reason for the emphasis on these two particular dispositions in RE is that it might arise from the context of multi-cultural and multi-faith society of Scotland. Many pupils are of the Catholic faith in Roman Catholic schools and some are of other faiths or no faith (Education Scotland, 2015c).

As stated in Chapter 7, section 7.3.1, respect for other faiths is perceived to be an essential dimension of Catholic schools and Catholic religious education and teachers are expected to model this respect for the teachers.

It seems that these two dispositions are very relevant for a successful religious education, as the interview with RE teachers also confirmed. In this situation, it is necessary, initially, for the teachers to respect and be open to all pupils from a variety of faith and non-faith backgrounds and then to encourage and to develop open-mindedness and respect for all views and stances in pupils. Highlighting the respectfulness disposition in the curriculum documents of RE in both sectors encourages teachers to provide an ethos of respect in non-denominational and also Roman Catholic schools. This ethos might be more necessary in Catholic schools in which pupils are from different belief backgrounds but Catholic Christianity is the dominant religion (*Curriculum for Excellence*, 2015). This allows an equal opportunity for all pupils to reflect on their own religious and non-religious worldviews without the anxiety that they may be treated disrespectfully by their schoolmates.

As stated in section 8.2.4, this disposition can be applied in other subject areas, in the form of 'respectfulness in facing different views and ideas'. This means that the ethos of respect might be provided by teachers not only in religious education but also in other curriculum areas. In this condition teachers and all pupils respect views of others on a particular issue of learning which are different from their own and, consequently, critical thinking has more possibility to be developed in learners.

8.3.5. More Emphasis on Dispositions in Documents of the Roman Catholic Sector

Exploring different elements of critical thinking evident in RE documents, as shown in Table 12, revealed another important finding. While the difference in the frequency of cognitive and meta-cognitive skills of critical thinking in all the documents is not considerable, dispositions are more prevalent in the Roman Catholic documents particularly in *This is our Faith*, in comparison to RME documents. The dispositions most evident in all RE documents and particularly in Roman Catholic documents are ‘open-mindedness’ and ‘respectfulness’.

This disproportionate emphasis on these dispositions in documents of Roman Catholic schools may reflect the scope of dispositions in Roman Catholic schools, given the multi-cultural and multi-faith society of Scotland. Though pupils with all different religious and non-religious views attend both kinds of schools, the approaches to religious education in those sectors are different. In non-denominational schools Catholic Christianity, as well as all other world religions and stances independent of religion are supposed to be taught impartially in the same way. Although there is the necessity to encourage pupils to respect each other’s views, these schools are naturally open to all different worldviews and treat them equally. In comparison, in Catholic schools, Catholicism is introduced as the only objective truth, and there is just learning about other world religions and some consideration of non-religious views (*This is our Faith*, 2011).

However in line with the Catholic Church’s positive regard and respect for other Christian denominations, faiths and stances for living independent of religious belief, Roman Catholic schools and Roman Catholic religious education should promote an ethos of openness and respect for other faiths and non-faith, emphasising these dispositions even more than non-denominational schools (see section 3.3.2). This requirement has been embraced by curriculum designers, who may have felt the necessity to address this in Roman Catholic Schools and Roman Catholic religious education, if they are to adapt to the nature of the society in which they operate.

Therefore, according to this finding RE teachers in all sectors, and particularly in the Roman Catholic sector, are required to develop these two crucial dispositions of critical thinking and also the skills of critical thinking in religious education. As described in the previous section,

the skills of critical thinking are likely to be developed through religious education if teachers provide an ethos of respect and encourage pupils to be open-minded in facing divergent beliefs which may fundamentally differ from their own.

At first glance, one may expect a higher emphasis on these dispositions in the document for non-denominational schools, due to their secular and non-doctrinal approach to teaching religion. It is, however, an interesting and counter-intuitive finding that the documents of Roman Catholics schools seem to pushing more towards dispositions of critical thinking. A deeper understanding of the factors behind this issue requires further research.

8.3.6. Differences in Approaches to Religion and their Relation to Critical Thinking in Documents

In order to obtain a deeper understanding of how critical thinking is integrated in RE curriculum documents, thematic analysis was employed to explore the underlying type of critical thinking in each of the RE curriculum documents. I discerned the 5 following themes which could shed light on the ways in which critical thinking is embedded in these documents:

- Approaches to religion
- Position of truth
- Personal search
- Learning about and from religion
- Balance in considering different religions.

While I observed a great deal of similarity among the documents in their use of elements of critical thinking, it was found that the documents portray fundamentally different types of critical thinking when these themes are taken into account. As can be seen, these themes largely reflect the particular view of the authors of each document about the nature of religion and what the students should gain out of religious education in each sector. In other words, an appreciation of certain needs of the pupils combined with the authors' selective views of the nature of religion appear to have significantly shaped the particular approach of the document to religious education. As discussed in Chapter 3, the different approaches to religious education do not have similar relationships with critical thinking. Rather they shape different

types of critical thinking in the context of religious education. My thematic analysis revealed significant differences among the documents along these themes, and, as a result, how critical thinking is embedded in each document.

This is our Faith, explicitly employs an explicitly confessional approach with regard to Catholic Christianity, expressing it as objectively true (p.16). This document also clearly rejects the idea that all faiths and denominations are equally true, to avoid relativism. With regard to other world religions, it takes what is labelled in the document as an “anthropological” approach (*This is our Faith*, 2011, p.17), where other world religions are seen from the “standpoint of human experience” and treated with “due respect and understanding” (ibid.). The same ‘anthropological’ approach is extended to non-religious beliefs, where some consideration of the symbols, rituals and beliefs that feature in society today are addressed. While the pursuit of truth and meaning of life is expressed as the main aim of the personal search, Catholic beliefs are introduced as the only objective truth. This implies that the proper final destination in learners’ journeys of personal search is defined at the beginning, although it expresses the view that religious education offers opportunity for non-Christians to progress their personal search for meaning and truth. Learning about and learning from Catholic Christianity are emphasised in *This is our Faith*, while learning about and from other Christian denominations and other world religions are also encouraged. Nonetheless, it is explained that time limits may constrain pupils’ knowledge of other world religions and non-religious ideas. As a result, the opportunity to learn about alternative truth claims and ideas seems relatively imbalanced.

Although, the literal content of *This is our Faith* is committed to the rhetoric of critical thinking in religious education, it could be categorized as what has been described as *Critical Thinking Within Religions* (Weinstein, 1996):

“Critical Thinking Within Religions is ... understood as the examination and evaluation of a tradition, as well as the decision making process within that tradition, using the tools, perspective and framework provided by that tradition.” (ibid., pp.82-83).

Although skills and dispositions of critical thinking are promoted in this document, the menu of alternative choices of truth claims is largely limited *within* Catholic Christianity, which is

introduced as the objective truth. As Weinstein (1996) explains, religions are better understood as a complex system rather than a fixed framework. This complex system:

“offers its members an identifiable tradition of rituals and beliefs, as well as the opportunity to *share* the religious experience of others. It is in regard to disputes about how this is to be understood, how stories and rituals are to be interpreted, and how new events are to be included within the religious framework that the category of Critical Thinking Within Religions concerns itself with.” (p.81)

In other words, critical thinking within religions is a tool for better understanding of a religion which is supposed to be true, in order to analyse and evaluate different views and interpretations. This type of critical thinking seems very different from the general critical thinking which is identified as the purpose of religious education.

The RERC document in *Curriculum for Excellence* is the other document which is also published as a guiding principle of RE in Catholic Schools. Although it was published before *This is our Faith*, some important differences are noticeable between them which may reflect a different type of critical thinking in RERC. First, RERC does not describe explicitly its approach, as “confessional”, although it could still be labelled as ‘faith-formational’ or implicitly confessional. Within the documentation, Catholic Christianity is still the central truth where *evangelisation* (proclaiming the message of Christianity to all), and *catechesis* (deepening of existing faith commitments among believers) are promoted (Education Scotland, 2015c, p.1). Nonetheless, compared to *This is our Faith*, other world religions are treated more seriously as the possible source of the truth. Therefore, pupils are encouraged to both appreciate and respect the elements of truth in other worldviews (ibid.). This is in line with Luby (2010), who argues that to equip the Catholic students for evangelization and catechesis in the schools with other, non-Christian students, critical thinking is necessary. This is because it enables the student to speak a common language based on evidence and argument, rather than using faith-based language which is not common among all students.

This more modest and open language with regard to other world religions reflects the view of the RERC authors who appear to adhere more to the multi-faith nature of pupils attending Catholic schools. Since the possibility of truth claims from other religions are somehow

accepted, one may claim that there is some evidence of *Critical Thinking Between Religions* (Weinstein, 1996) in RERC, although others may argue that the centrality of Catholic Christianity still make it fit into the Critical Thinking Within Religions category.

According to Weinstein (1996):

“Critical Thinking Between Religions is a type of critical thinking ... by which one compares and makes judgments regarding the truths and claims of different religions” (p.83).

Weinstein (1996) argues that there is *Critical Thinking Between Religions* when people are entitled to use norms and criteria which are outside a particular religious tradition to evaluate certain claims and ritual offered by that particular religion. As a result, if religious conviction is very strong, this type of critical thinking would not be acceptable.

The type of critical thinking in the RME documents for non-denominational schools in *Curriculum for Excellence* seems fundamentally different from both curriculum documents for Catholic schools, as the analysis of all 5 themes revealed. Firstly, learning about and from the beliefs, values, practices and traditions of Christianity, the world religions, and the viewpoint independent of religious beliefs are addressed with relatively the same weight. As a result, no one particular view is presented as dominant. Secondly, there is no evidence of the existence of the ‘truth’ in the entire document. This issue implies an underlying ‘phenomenological approach’, where religions are treated as human phenomena, rather than a source for truth claims, although this is not the label used explicitly in the RME document. Thirdly, religion is described as an important expression of human experience, which could be called an ‘experiential approach’. Finally, personal search for meaning, value and purpose in life is highlighted in the RME document for non-denominational schools, while the use of personal search for ‘truth’ is avoided.

This type of critical thinking in RME documents is close to what Weinstein (1996) described as *Critical Thinking Concerning Religion*, where the claims independent of a religious framework are also evaluated alongside the claims drawn from the context of different religions. The difference, however, is that Weinstein (1996) uses the term truth in line with the core idea of critical thinking, which essentially promotes the pursuit of truth:

“Critical Thinking Concerning Religion is characterized by the investigation and evaluation of certain religious truths, given the understanding of what these religious truths mean within the religion, while simultaneously giving acknowledgment to how these truths are to be interpreted in their most immediate sense independent of the religious framework” (ibid., p.86).

This third type of critical thinking emphasises that religious truth claims should be understood within the assumptions and interpretations accepted within that particular religious tradition, while they could be compared with the claims drawn from non-religious viewpoints. This perspective tries to be inclusive in the sense that both religious and non-religious claims are analysed and evaluated.

Weinstein (1996) asserts that these three types of critical thinking about religions employ all of the tools and skills of critical thinking, such as self-correction and consistency. He also asserts that skills which are developed within one category can be transferred to other categories. However, “Premises, standards of relevance and criteria for evidence may differ from category to category” (ibid., p.87). As a result, what is perceived as a valid argument or reasonable evidence in one category, might not be acceptable or might receive less weight in other types of critical thinking. The difference lies behind the assumptions and premises which may not be explicitly clear. One advantage of the thematic analysis of the documents was that it shed light on these implicit assumptions which specify how different types of critical thinking may be embodied in the documents.

The evidence provided from the RE curriculum documents about some crucial themes clearly shows that critical thinking, though promoted in all documents, is shaped by the underlying contexts, overall assumptions, particular world views or beliefs and the intentions of the authors. In other words, critical thinking is developed within a particular ‘boundary’ which is often taken for granted. Although all the skills and dispositions I explored in the framework of critical thinking are similarly applied in the documents, the particular approaches gained through thematic analysis are very different. This means that, although pupils are encouraged to apply the elements of critical thinking, there are certain limitations beyond which that critical thinking might not be promoted. Pupils are taught to be critical, be open to different beliefs and ideas, and have self-regulation. At the same time, particular approaches are often

explicitly or implicitly preferred over alternatives in all the documents.

Based on the themes in the RE documents stated above there are different types of critical thinking in those documents in Roman Catholic schools compared to those in non-denominational schools. Even for Roman Catholic schools, the documents developed on behalf of the government have a different approach to *This is our Faith*, although it is supposed that the latter should be in-line with the former. When there are dissimilar approaches to religion in RE curriculum documents, the term ‘critical thinking’ evident in these different contexts could have different meanings and interpretations. Nonetheless, all elements and layers of ‘critical thinking’ in the framework appear in the same way in these documents.

As mentioned in sections 6.8.1 and 6.8.2, there are specific views on religion in RE documents of Roman Catholic schools where the ‘confessional’ approach is explicitly or implicitly promoted. In these documents, RERC and *This is our Faith*, the views independent of religious beliefs appear very marginal, such that they are excluded from the *Experiences and Outcomes*. Catholic Christianity is taught as the only truth where the aim of personal search is achieving the truth as well. As a result, critical thinking *within* religion is evident in both documents, although RERC shows some characteristics close to critical thinking *between* religions. This implies that the pupils are encouraged to apply all skills of critical thinking, however, based on accepted criteria and particular evidence accepted within a specific religion for critical thinking *within* religion. Of course, religion is not a fixed predefined framework, but a complex system with some interpretive flexibility.

There is a wider and more open view of religions which describe them as an important expression of human experience (Education Scotland, 2015a) in the RE documents of the non-denominational sector. The *Experiences and Outcomes* include Christianity, world religions and general beliefs and values; thus in this broad context the skills of critical thinking may find wider opportunity to be developed. Consequently, critical thinking *concerning* religions is a type of critical thinking applied in this context. Nonetheless, one important aspect of critical thinking advocated by many scholars (Paul, 1993 and Ennis, 1998) is pursuit of ‘Truth’, which is not promoted explicitly in the RME documents. Thus, even in these documents, one could find a type of assumption which implicitly avoids the

pursuit of truth.

The pitfall of this way of using the term ‘critical thinking’ is that it may gradually become a buzzword, where it may be applied in combination with any idea or belief system. As a result, it is possible that critical thinking is encouraged even within a very closed and inflexible thinking where learners are only allowed to think critically within very narrow boundaries. This might then be in contradiction with the aim of critical thinking, where pupils should openly think about alternative views. My study shows that the elements of critical thinking in my framework are applicable in the analysis of documents. However underlying different approaches should also be explored in order to understand how critical thinking is shaped within particular contexts. The compatibility and consistency of the context with the core idea of critical thinking should also be considered. As a result, there will remain an open question for further research, which is ‘What minimum characteristics are acceptable to define critical thinking in a particular context, given it is religious education or any other subject matter?’

8.4. Teachers’ Understanding of Critical Thinking in Religious Education

One of the main aims of this research was to explore teachers’ understanding of critical thinking in religious education, compare their perception of critical thinking, and find out the similarities and differences in their understanding. I conducted interviews with RE teachers in two sectors, to answer the third and fourth research questions regarding teachers’ accounts of critical thinking. In the interviews teachers were asked to explain how they understand critical thinking and the factors shaping their perceptions. Analysis of the interview data based on the framework of critical thinking provided significant and interesting findings, which are discussed in this section.

Teachers’ perceptions of critical thinking were analysed in terms of two different dimensions. The first one was based on their perception of critical thinking according to the elements of the framework developed in this study. The second one was the overall approaches to critical thinking the teachers adopt in religious education. The teachers’ accounts of critical thinking were first explored and compared based on the framework of critical thinking, to understand their perceptions of the skills and dispositions attached to critical thinking. The result of this

analysis is described in the next section. Secondly, the teachers' overall understanding of critical thinking and the meaning they attached to it were also analysed. The distinction between these two perceptions of critical thinking is important, because, as will be seen, there might be inconsistencies in what teachers perceive as critical thinking and what they do in practice with regard to the skills and dispositions of critical thinking, even if they do not recognize them as elements of critical thinking. Moreover, it might be possible that teachers' perceptions of critical thinking cover similar elements, while individual teachers take different overall approaches and *vice versa*: that is, similar overall approaches may be underpinned by different elements in teachers' accounts of critical thinking. Having explored these two kinds of understanding of critical thinking among teachers in different sectors, interesting and crucial findings were obtained, which are discussed in the next sections.

8.4.1. Similar Expression of Elements of Critical Thinking

The analysis of teachers' accounts of critical thinking revealed that more or less all the teachers addressed all the skills of critical thinking and some of its dispositions. The interesting thing was that all these RE teachers explicitly pointed to the cognitive skills of critical thinking: analysis and evaluation. However, the meta-cognitive skills of critical thinking and also its dispositions were implicitly evident in their definitions. Although there was variety in the kinds of dispositions considered by teachers, it did not make a considerable difference between their perceptions of critical thinking in the two sectors. The explanation of this variety in dispositions regarded by teachers in different sectors is discussed in section 8.4.3. As a result of this finding, I concluded that teachers in both sectors are similar in terms of their explicit expression of cognitive skills, and their implicit notion about the meta-cognitive skills and dispositions. However, teachers in the two sectors differed in terms of the specific dispositions they referred to which will be explained in the section 8.4.3.

According to what was found in this study, it seems that all RE teachers share the same understanding regarding constituent elements of critical thinking, such that the type of the sectors in which they work does not seem to noticeably affect their understanding of elements of critical thinking. Pointing to the cognitive skills of analysis and evaluation explicitly shows the teachers' awareness of these higher level thinking skills as the specific skills of critical thinking. This might be due to the occurrence of these well-known skills not only in all the

RE curriculum documents but also in national exams, as the higher level skills besides the lower level thinking skills (such as knowledge and understanding).

In contrast, self-regulation and dispositions were not mentioned explicitly as the elements of critical thinking, though teachers implicitly considered them. It seems that the meta-cognitive skills and particularly the dispositions are not as widely recognised as the cognitive skills, by the teachers of both sectors. However meta-cognitive skills are higher level skills than the cognitive ones and are considered by Paul (1993) as the important self-correcting element of the critical thinking process. Furthermore, without dispositions as the attitudes toward critical thinking, the skills of critical thinking will not be developed in a strong sense (ibid.). Thus, it is necessary and very valuable to develop a fuller understanding of critical thinking for the teachers of both sectors, employing for example resources in the form of teacher resources or teacher education courses with emphasis on meta-cognitive skills and dispositions. These supportive courses and materials would enable the teachers to develop critical thinking through religious education courses. The lack of these kinds of supportive sources is another finding of this research which will be described in section 8.4.5.

8.4.2. Variety of Teachers' Overall Approaches to Critical Thinking

Although the teachers' perceptions of the constituent elements of critical thinking were relatively similar, what makes a distinctive difference between their accounts is their overall approaches to critical thinking in religious education. The teachers' approaches to critical thinking are the whole picture drawn from what they say they do regarding critical thinking in RE in their schools. These approaches might show the contradiction between their definition of critical thinking and what they do to develop critical thinking in practice. It should be noted that the perception of each teacher may constitute a combination of different approaches. These approaches which shape teachers' understanding of critical thinking may not be consistent even for the same teacher.

As can be seen in Appendix E, the comparison of the approaches held by RE teachers in different schools showed similarity in the common approach to critical thinking which I call 'critical thinking coherent with the framework'. This comparison demonstrated that all RE teachers explicitly or implicitly point to the elements in the framework in their accounts of

critical thinking. As discussed in section 8.2.2, this finding confirmed the workability of the framework to capture the elements of critical thinking in teachers' perceptions.

Moreover, the majority of RE teachers in both sectors (6 out of 9, 3 in non-denominational and 3 in Roman Catholic schools) had the same approach to critical thinking which I call 'intertwined with RE'. The 'intertwined with RE approach' implies they viewed RE as highly connected to critical thinking, so that RE without critical thinking could hardly be imagined by the teachers. This could imply that in the current multi-cultural and multi-faith environment of the Scottish society, even the single-faith schools have gradually come to the conclusion that critical thinking is the only effective way to deliver religious education (Wright, 2007). The sensitive and important topics covered in RE have serious implications for the overall life of the student, their worldviews and even their life-style. As a result, the traditional confessional approaches may not be appropriate for such fundamental questions for which there are multiple truth claims. Students need to deeply evaluate and analyse the answers and reflect on their own process of thinking in an environment in which open-mindedness and respect for other views are promoted. These are all 'natural' requirements of multi-cultural and multi-faith societies which cause RE to be intertwined with critical thinking.

Despite finding these common foundations, there was a variety of approaches to critical thinking in teachers' perceptions, particularly in the non-denominational sector. I found a particular approach and called it the 'generalised view of critical thinking', held by only one teacher in a non-denominational school, implying that critical thinking is equal to good thinking, in the sense that all thinking according to this view is critical. Two RE teachers (one in each sector) had what I identified as a 'formal philosophical thinking' approach, perceiving that critical thinking should involve formal philosophical argumentation such as deduction. Three teachers (one in non-denominational and 2 in Roman Catholic) believed in a 'maturity' approach to critical thinking where some kind of relationship between age and the capacity for critical thinking is assumed. In other words, younger children have supposedly less capacity for critical thinking, compared with older students. Looking at teachers' accounts from the Roman Catholic schools, two teachers shared the same 'maturity' view and the other two had the 'intertwined with RE' view. As a result, no particular pattern could be attributed to teachers' accounts of critical thinking from Roman Catholic schools. The variety of the

views was even more diverse among teachers in non-denominational schools, again with no specific pattern. It seems that in my sample the type of school does not affect the teachers' perception of critical thinking, but many other factors may be in play to shape teachers' accounts of critical thinking.

The diversity in teachers' accounts of critical thinking is a key point not only found in this study, but also reported in other academic works. Dike (2006) explored the concept of critical thinking among 113 military teachers and concluded that there was a lack of uniformity evident in their understanding of critical thinking, although they stated the common elements in their definitions. The diversity I found in RE teachers' perceptions of critical thinking shows that even in the same sector and same subject area teachers might understand critical thinking in different ways and this suggests other factors shaping and influencing their perceptions. One explanation might be that no common pre-defined school-based programme, curriculum-based training or even document-based perspective is introduced to create a shared understanding of critical thinking for RE teachers in the different sectors. In other words, as described in section 8.3.3, the meaning of critical thinking has neither been explicitly defined in the main national documents for RE teachers, nor has there been any nation-wide scheme to provide a shared understanding of critical thinking in different schools. This is also similar to the result of some studies on the teachers' perceptions of critical thinking in other subject areas. Alazzi (2008), in his research on teachers of social sciences in Jordanian secondary schools concluded that teachers did not have a comprehensive knowledge regarding the meaning of critical thinking, and that state publications or in-service training were not good aids to clarify the concept of critical thinking for them. Furthermore, Mitrevski and Zajkov (2011), in their study on 89 maths and science teachers from seven public secondary schools in the Republic of Macedonia, found great diversity among the teachers' understandings of critical thinking, such that they did not know how to develop it among students. These studies show that implementation of critical thinking in different subject areas based on a clear definition is problematic. Although there are many scholarly discussions in the literature, these ideas are not represented in the curriculum and practice of the teachers in many subject areas. This is not limited to the schools in developing countries, but, as my study shows, a similar situation is also observed in more developed countries like the UK.

The result of my own study shows that there is not a unique curriculum-based resource for RE teachers in each sector to help them develop their perception of critical thinking. The analysis of the factors teachers mentioned in shaping their understanding of critical thinking illustrated the variety of personal or social or professional backgrounds. This is apparent in Table 18 which lists these factors. Although the teachers indicated different courses in this process, none of them report using the national documents to understand critical thinking. However, all the RE teachers were clearly aware of national documents and even highlighted their role in shaping their selection of RE issues. Therefore, the interesting point here is that the problem is not the teachers' ignorance of these documents, but more that the national documents have failed to create a clear and specific meaning of critical thinking for RE teachers. As a result, each teacher has combined the basic definition of critical thinking with the variety of understandings coming from their own personal education and experiences.

8.4.3. Similar Expression of Dispositions in Teachers' Perceptions of Critical Thinking

As explained in section 8.4.1, some dispositions of critical thinking were found in teachers' accounts of critical thinking. However, the commonality of each type of disposition may differ among teachers. While there were a few differences regarding some kinds of dispositions mentioned by RE teachers in different sectors, the differences did not appear to form a pattern, whereas, the similarities in understandings of dispositions were more noticeable. One of the differences was in incidences of the expression 'self-confidence' that were only present in the responses of three teachers. A possible explanation for this infrequent expression of self-confidence is that it is too obvious and fundamental for RE teachers to talk about it. It also might be the result of the limited sample in this relatively small research project.

The most significant similarity in incidences of disposition was the emphasis on 'open-mindedness' and 'respectfulness' by the majority of RE teachers. 'Respectfulness' was a new disposition repeated frequently by RE teachers and also in RE curriculum documents, suggesting the importance of this disposition in religious education. The highlighting these two dispositions by RE teachers was similar to what was found in the analysis of the RE

curriculum documents. The comprehensive explanation and implication of this finding was presented in section 8.3.4.

In addition, two dispositions in the framework of critical thinking, ‘fair-mindedness in appraising reasoning’ and ‘honesty in facing one’s own biases and prejudices’, were absent in teachers’ accounts and also in the RE documents. This, again, might be due to the small sample in this study and these dispositions are likely to appear in deeper research on a larger sample, or they might appear in the documents of other subject areas in other studies.

As the data revealed (and as discussed in section 8.4.1) teachers did not appear to consider dispositions to be elements of critical thinking, although they implicitly develop some of them through religious education. If teachers are aware of these dispositions and their significant role in critical thinking, not only in religious education but also in all other subject areas, teachers will set a central position in the teaching curriculum areas for development of these dispositions. This calls for a well-defined training programme for teachers about different elements of critical thinking and how these can be developed among learners.

8.4.4. Lack of Sufficient Awareness of Developing Critical Thinking

Investigating different approaches to critical thinking among RE teachers demonstrated an interesting finding with regard to the gap between these perceptions and the scholarly literature about critical thinking. For example, one of the RE teachers had a very specific perception of critical thinking and graded it into three levels from a general style of critical thinking to academic critical thinking. As a result, he claimed what he did in core RE in that school was only the simple level of thinking in the lowest grade, and therefore no development of critical thinking was perceived. However, the characteristics of what he perceived as the lowest level of thinking, when compared to the elements of the framework, revealed that in this level critical thinking was also being developed. Therefore, this teacher was implicitly developing critical thinking in religious education without recognising it, due to his different understanding of critical thinking. In addition, in the second level of his classification, where he believed critical thinking was being developed, based on his understanding, not all elements of critical thinking were being developed comprehensively (only cognitive skills were evident).

One reason for teachers' diverse understandings of critical thinking is the lack of any official and academic programme to teach them the theoretical concept of critical thinking and how to develop it practically in their teacher education. In the interviews, none of the teachers pointed to their teacher education course in helping them to understand critical thinking. As a result, it can be recommended that, in order to implement critical thinking precisely and completely in religious education and also in all other curriculum areas, this concept should be explicitly taught to teachers. In addition, the possible approaches to teaching critical thinking in the particular subjects should be considered, given the higher effectiveness of subject-specific teaching approaches (Kennedy et al., 1991). As stated in the literature of critical thinking, there are four different approaches: the general approach, the subject specific (infusion) approach, the subject specific (immersion) approach and the mixed approach (see section 2.5). However, the empirical studies show the greater effectiveness of the mixed approach compared to other approaches (Kennedy et al., 1991). Thus, the teachers should be aware of the meaning of critical thinking, its constituent elements and the ways they are able to develop it in practice in different subjects.

8.4.5. Lack of Complete Knowledge amongst Teachers of Integration of Critical Thinking in RE Curriculum Documents

The analysis of the data shows a lack of knowledge about RE curriculum documents regarding critical thinking, such that none of the RE teachers pointed to the explicit mention of critical thinking in these documents. However, the analysis of all the RE documents revealed several incidences of the term critical thinking in the RE documents for both sectors (see Table 7 and Table 9).

Thus it seems that RE teachers have not studied the RE curriculum documents deeply in terms of critical thinking, and consequently they did not exhibit a complete knowledge of the existence of the term critical thinking and how it is employed in those documents. My personal observation also supports that conclusion: during interviews, when asking them to describe how critical thinking is represented in those documents, some of them requested me to let them bring the documents to check and search for critical thinking on the spot.

This lack of RE teachers' understandings of the position of critical thinking in RE documents

seems a very important issue which should be addressed in subsequent research, although some possible explanations are suggested. One explanation of the observed diversity and even contradiction in teachers' awareness of the presence of critical thinking in these documents could be due to their different understandings of critical thinking. According to section 8.4.2, RE teachers have different overall approaches to critical thinking and it seems that each of them is looking in the documents for the specific critical thinking which is matched to their own views. Hence their responses were affected by their different perceptions of critical thinking and might not be coherent with my framework of critical thinking. This problem is likely to be reinforced due to the absence of a clear definition of the term critical thinking in these curriculum documents (see section 8.3.3) and an exposition of the ways it should be developed in religious education.

In some studies, critical thinking is reported as the most frequently taught thinking skill by teachers in Scotland, even before the new *Curriculum for Excellence* was launched (Burke et al., 2007). Therefore, critical thinking has not been seen a very new concept, recently introduced to the teachers, but already one of their main concerns. Scotland's *Curriculum for Excellence* is also generally viewed as an ambitious change programme targeting a coordinated approach to curriculum development (Scottish Government, 2008, p.8). The role of teachers as 'agents of change' has been reported as one of the distinctive features of *Curriculum for Excellence* (SEED, 2006), where the document is a guide for school-based curriculum development (Priestley & Humes, 2010). If the teachers are to be real agents of change, guided by *Curriculum for Excellence* documents, this poor understanding of such a core concept in the documents should be considered.

This kind of confused image of the RE curriculum documents is not, however, limited to critical thinking and might be the result of more general challenges observed in the implementation process of this large scale programme. Priestley (2014) provided a number of factors responsible for such a superficial implementation. Among them, these three factors seem particularly relevant to my discussion about the teachers' knowledge of the curriculum documents:

- a lack of fit between teachers' implicit theories about knowledge and learning and the new curriculum;

- a lack of time available to teachers to make sense of what are in many ways complex and unfamiliar concepts, and
- a paucity of the sorts of collegial, cross-school teacher relationships essential to the development of collaborative professional cultures (especially in secondary schools) (ibid., p.190)

The combination of these factors could create a diverse range of opinions about any important concept or approach introduced in the curriculum documents, including critical thinking, which also suffers from the lack of a clear definition and framework within the analysed documents. This phenomenon is not, however, surprising: it is known as the ‘implementation gap’ between central curriculum policy documents and classroom practices (Supovitz and Weinbaum, 2008).

8.5. Conclusion

In this chapter the research questions were restated in the introduction section. Then the findings from three studies were discussed. These three studies comprised (1) the development of an operational framework of critical thinking; (2) analysis of the integration of critical thinking into religious education curriculum documents of the non-denominational and Roman Catholic sectors and, (3) an exploration of teachers’ understanding of critical thinking. All the findings of these studies, their relation to literature, their implications for practice and the way they answered the research questions have been discussed in this chapter. In summary, the main findings presented in this chapter are:

- A hierarchical framework of critical thinking
- An account of the usefulness of the framework in the analysis of teachers’ accounts and RE curriculum documents
- The applicability of the framework to other subject areas
- The improvement of the framework based on the empirical studies
- The similarity in emphasis on lower level thinking skills in the RE documents of both sectors
- The similarity in development of critical thinking in the process of teaching and learning RE in documents of both sectors

- The vagueness of documents in defining and developing critical thinking
- The identification of 'Respectfulness in facing divergent beliefs' as a new and frequently used disposition in RE documents of both sectors
- The identification of more emphasis on dispositions in RE documents of Roman Catholic sector
- The identification of differences in approaches to religion and its relation to critical thinking in RE documents
- The identification of similar expression of elements of critical thinking in teachers' perceptions
- The variety of RE teachers' overall approaches to critical thinking
- The identification of similar expression of dispositions in teachers' perceptions of critical thinking
- The identification of 'Respectfulness in facing divergent beliefs' as a new disposition evident in teachers' accounts
- The low level of RE teachers' awareness of approaches to developing critical thinking in pupils
- The lack of complete knowledge amongst RE teachers of the integration of critical thinking in RE documents

Chapter 9: Conclusions and Implications

9.1. Introduction

Critical thinking is increasingly being introduced as one of the main aims of education systems. In an increasingly globalized world, access to knowledge and information has become easier than any time. As a result, a responsible citizen should be able to critically analyse the vast volume of information encountered every day, distinguishing accurate from inaccurate information (Alosaimi, 2013). Critical thinking is not limited to a particular subject such as science and technology, but covers the whole range of curriculum areas, including maths, language and social studies, as well as religious and moral education.

This wave of incorporation of critical thinking into education systems attracted the attention of academics who are keen to understand this broad shift in education systems, the factors that may inhibit or stimulate this process at different levels, and particular methods and strategies used to implement this approach in different subject areas. Surprisingly, religious education is an under-researched subject from the critical thinking perspective, compared to other subjects. Nonetheless, a unique paradoxical situation appears for the incorporation of critical thinking in religious education which makes it attractive for academic research. On the one hand, the fundamental questions about different aspects of human life normally addressed in this subject create a very fertile environment for critical thinking. On the other hand, religious education in its traditional, confessional form may not be totally in line with critical thinking, due to its emphasis on one particular belief system.

As a result, I chose to explore how critical thinking is integrated in religious education, with particular focus on the analysis of curriculum documents and teachers' perceptions. Recent research has illustrated the importance of these two factors on critical thinking in the classroom (Reynolds, 2016; Kanik, 2010). The present research aimed to explore the integration of critical thinking in curriculum documents of religious education in two different sectors and also on teachers' perceptions of critical thinking. In order to achieve this aim it was also necessary to develop a new operational framework of critical thinking. In this chapter the summary of results drawn from these three aspects of the research is explained

with reference to the research questions. In addition, interpretations of these findings, their implications for theory and practice and suggestions for further research are presented in this chapter.

9.2. Results

In this section I have summarised the research findings, discussed in the previous chapters, and the way they answered the research questions.

9.2.1. Designing the Operational Framework of Critical Thinking

The first research question was:

What is an appropriate framework for the analysis of critical thinking in religious education?

The original framework of critical thinking was developed in Chapter 5. The findings with regard to the development of the critical thinking framework in this research showed the particular aspects of this framework that distinguished it from existing frameworks of thinking skills and also critical thinking taxonomies. This hierarchical framework comprises lower level thinking skills, higher level or critical thinking skills (cognitive and meta-cognitive skills) and dispositions. Applying this framework to the curriculum documents of RE regarding the integration of critical thinking and finding its elements embedded in these documents revealed its workability in analysis of RE curriculum documents in terms of critical thinking. Moreover, the analysis of teachers' perceptions of critical thinking according to this framework revealed both explicit and implicit evidence of its elements in their accounts. However, there were two dispositions in the framework, 'fair-mindedness in appraising reasoning' and 'honesty in facing one's own biases and prejudices', which were not evident in the teachers' accounts. These dispositions might be evident in research on a larger sample or on other subject areas. Consequently, the finding showed the workability of the framework in identifying the teachers' understanding of critical thinking. Furthermore, a pilot analysis of RE resources based on this framework made me confident that the same framework could be applied for the more comprehensive analysis of a religious education curriculum, including RE resources, RE curriculum documents and RE teachers' accounts of critical thinking and the methods they use to develop different skills of critical thinking in

students. In addition, as all the elements designed for this framework were the general skills and dispositions and were not specific to religious education, I am confident that this framework will be applicable to all other subjects. Therefore this framework not only worked in the context of religious education, but it has also the potential to be applied in different curriculum areas.

Part of the development of the critical thinking framework was the improvement of the framework at the end of research. The analysis of both RE curriculum documents and teachers' accounts demonstrated the evidence of 'respectfulness regarding divergent beliefs' as a disposition of critical thinking in the context of religious education. Hence addition of this particular disposition to the framework made it a rich and improved framework of critical thinking. The Figure 4 illustrates the improved framework of critical thinking which might be more appropriate for the analysis of critical thinking in religious education.

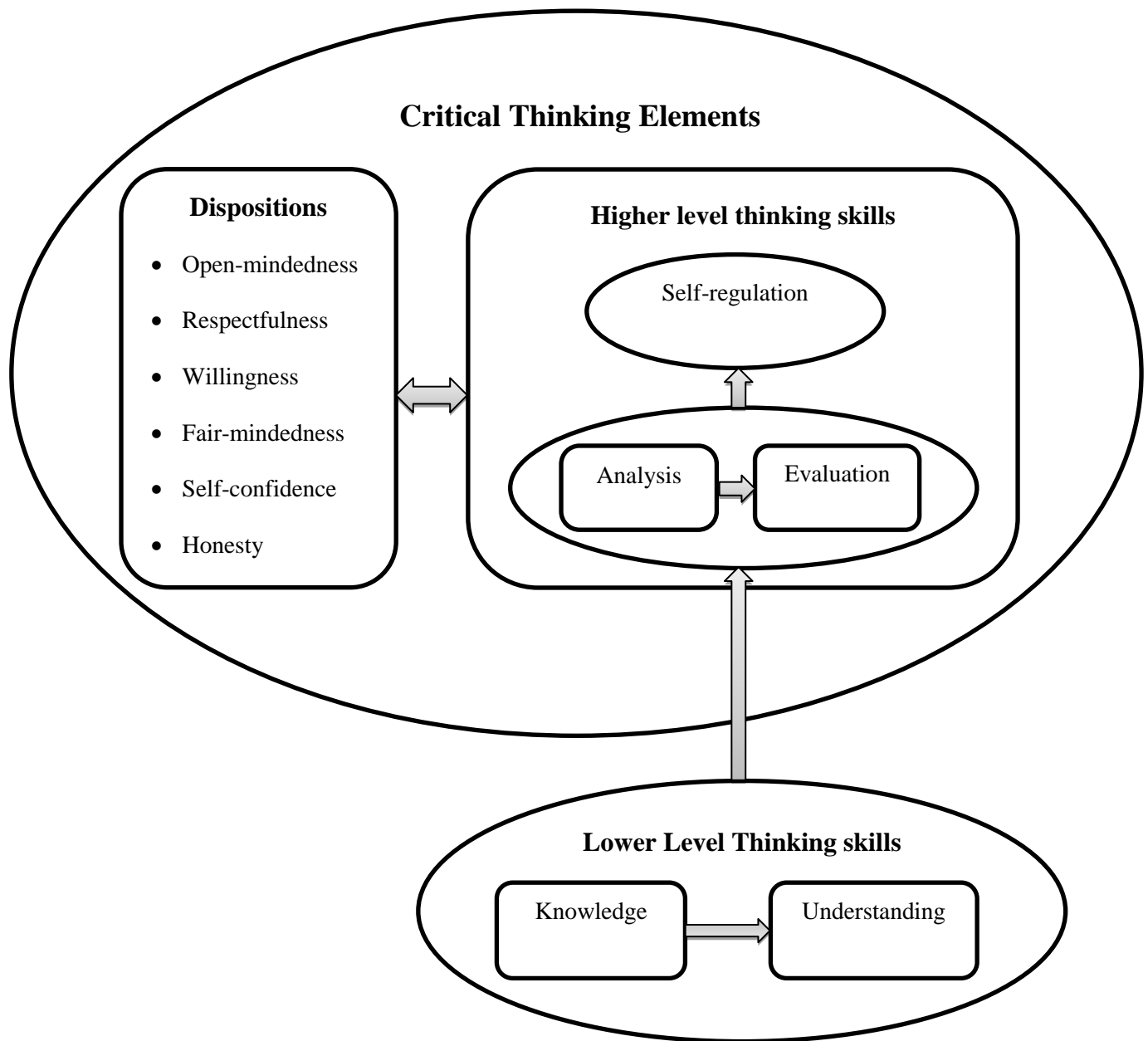


Figure 4: The improved framework of critical thinking in this study

The above analysis suggests that there might be an element of subject-orientation in the dispositions relevant for promotion of critical thinking in different subject-areas. In other words, some dispositions might be more important in particular subject areas, as observed for open-mindedness and respectfulness in the context of religious education. However, it does not mean that these dispositions are totally irrelevant in other subject areas. This differs from the sets of skills in the framework, which seem generally relevant in all subject areas. Nonetheless, this issue is an interesting opportunity for further research to explore how and why critical thinking may demand different dispositions in various contexts.

9.2.2. Integration of Critical Thinking in RE Curriculum Documents

This was the second research question:

What types of critical thinking are evident in relevant national curriculum documents of religious education?

Applying the designed framework of critical thinking in order to analyse the RE curriculum documents in both sectors regarding critical thinking uncovered the findings which could answer this research question. While elements of critical thinking were similarly identified in all documents in the process of teaching and learning RE, there were three types of critical thinking based on the approaches to religion in the different documents. The analysis revealed that RME documents of *Curriculum for Excellence*, RERC documents of *Curriculum for Excellence* and *This is our Faith* have different approaches to religion and truth which affect the integration of critical thinking. *This is our Faith* explicitly applies the confessional approach regarding Catholic Christianity, and this religion was introduced as the only objective truth. Thus the kind of critical thinking in this document was ‘*critical thinking within religion*’ which indicates that the elements of critical thinking were developed in this document but mainly promoted *within* the boundaries of Catholic Christianity. Although RERC documents were the other documents of Roman Catholic sector, their approach to religion and truth was somewhat different from *This is our Faith*. While Catholic Christianity is the central truth, based on the faith-formational or implicit confessional approach within these documents, the possible aspects of truth in other world religions were considered in RERC. Hence since the possibility of truth claims from other religions are accepted, there is some evidence of ‘*critical thinking between religions*’ in the RERC documentation. In

contrast, the RME documents for the non-denominational sector employ a different approach to religion and truth. While there is no evidence of any appearance of the term ‘truth’, all world religions and non-religious views are equally taught under the implicit phenomenological approach. In other words, this document tends to explicitly avoid employing the term ‘truth’, perhaps because of the particular philosophical connotations it may imply. This resulted in a ‘*critical thinking concerning religion*’ type of critical thinking in RME documents, where religious claims are also being considered in parallel with non-religious ideas.

Other findings revealed the similarity of RE documents in different sectors with regard to critical thinking. I found more emphasis on the lower level thinking skills compared to the higher level skills of critical thinking, generally, in all the RE documents and particularly in the experiences and outcomes of the S3 stage. Given the limited available time in schools, this could decrease the possible development of critical thinking through religious education based on these documents. Another similarity discerned from the analysis of documents was the emphasis on development of critical thinking in the process of teaching and learning in religious education in all RE documents. This process includes the purpose of religious education, the teachers’ duties in planning the teaching of RE and the features of RE assessment, in which developing critical thinking skills was one of the factors considered.

While critical thinking is addressed in the whole process of teaching and learning, it seems that its relative weight over the whole curriculum is much less compared to lower level thinking skills. This imbalance may create challenges for teachers to spend enough time on development of critical thinking. Other studies have shown that the superficial coverage of too much material in the curriculum prevents students from acquiring the deeper understandings which are necessary for development of critical thinking (Reynolds, 2016; Kanik, 2010). If religious education is to achieve critical thinking, the depth of understanding of the subject matter should be addressed in the curriculum documents.

Another similarity noted across all the documents regarding critical thinking was a vagueness in defining critical thinking. While the term critical thinking and its skills and dispositions were explicitly and implicitly evident in documents, there was no guidance on the meaning of this important term in any of the RE documents. The absence of a clear definition of critical thinking and the ways in which it can be developed may make it difficult for teachers to

achieve one of the main purposes of religious education, which is development of critical thinking.

As described in the design of the framework, the analysis of documents demonstrated a new disposition called ‘respectfulness facing divergent beliefs’, repeated frequently in all RE documents. The considerable evidence for this disposition in all RE documents and also in teachers’ discourse on critical thinking in RE indicated the connection of this disposition to religious education. Therefore, as explained in the previous section, it could be added to the framework of critical thinking to make it a specific framework of critical thinking in religious education.

In addition to the similarities found in the analysis of the documents there were differences in the incorporation of critical thinking in RE documents of the two sectors. One of these was in the different kinds of critical thinking addressed earlier in this section. Another difference was in the number of dispositions of critical thinking mentioned in RE documents. Whilst all skills of critical thinking and most of its dispositions were present in all RE documents, the frequency of dispositions in Roman Catholic documents was considerably higher, particularly in *This is our Faith*, in comparison to RME documents. These dispositions, which were mostly ‘open-mindedness’ and ‘respectfulness’, revealed the importance of these dispositions, particularly in Roman Catholic schools. This is due to their multi-faith population in these particular schools in which one faith is recognised and taught as the ‘truth’. Therefore there might be a problem that pupils from other faiths and non-faith backgrounds might feel their beliefs were being devalued. However, in non-denominational sector no one faith is put above another and all religions and non-religious views are treated equally. Again, considerable emphasis on these two particular dispositions may come from social and cultural concerns, rather than deep concerns about critical thinking.

9.2.3. Teachers’ Perceptions of Critical Thinking

The third and fourth research questions regarding teachers’ perceptions of critical thinking were:

How do RE teachers of S3 in non-denominational and Roman Catholic secondary schools understand critical thinking?

What are the similarities and differences in teachers' understanding of critical thinking in the two types of schools?

The teachers' perceptions were also explored according to the framework of critical thinking. The analysis was carried out from two perspectives: firstly to capture the elements of critical thinking in teachers' accounts and secondly to reveal their overall approaches to critical thinking. The overall approach to critical thinking was the whole picture drawn from what they said and also what they said they did, in terms of critical thinking in religious education in their schools. Investigating the teachers' accounts based on the first perspective showed the explicit and implicit expression of all critical thinking skills and most of its dispositions in their perceptions. In other words, all RE teachers in both types of schools shared the same accounts with regard to the constituent elements of critical thinking. Therefore, the type of sector did not seem to noticeably influence their accounts of elements of critical thinking.

The second perspective of exploring the teachers' accounts uncovered the variety of their overall approaches to critical thinking, which revealed the distinctive differences between their perceptions. These were the approaches by which the teachers define critical thinking and its position in the RE curriculum. Their approaches were 'critical thinking coherent with framework', 'intertwined with RE', 'generalised view of critical thinking', 'formal philosophical' and 'maturity' approaches to critical thinking. The teachers might have a combination of these approaches in their understanding of critical thinking. The majority of RE teachers in both sectors (3 in each sector) had the same view of critical thinking, which was 'intertwined with RE'. This showed that the RE teachers thought that religious education was connected to critical thinking such that RE could not be taught without considering critical thinking. According to the findings, the 'generalised view of critical thinking' was a particular understanding of critical thinking by one RE teacher in a non-denominational school, implying that critical thinking is equal to good thinking, in the sense that all thinking according to this view is critical. Two RE teachers (one in each sector) had the 'formal philosophical thinking' approach, perceiving that critical thinking should involve formal philosophical argumentation such as deduction. In addition, the findings showed that three teachers (one in non-denominational and 2 in Roman Catholic) had the 'maturity' view of critical thinking in which critical thinking was related to the age and the capacity of learner. Therefore, I could not find a pattern among all the RE teachers and also among the accounts

of teachers in the same sector. This diversity in teachers' accounts of critical thinking revealed that even in the same sector and same subject area (RE) teachers might understand critical thinking in different ways and this suggested that other factors were shaping their perceptions. These factors are mentioned in the next section, to answer the final research question.

Another similarity found in the teachers' accounts was the expression of dispositions in their understanding of critical thinking. Similarly to the considerable incidences of 'open-mindedness' and 'respectfulness' in RE curriculum documents, these two dispositions were evident in the majority of RE teachers' perceptions of critical thinking. Thus these similar findings highlighted the significance of these two particular dispositions in the religious education curriculum area. Furthermore, two dispositions, 'fair-mindedness in appraising reasoning' and 'honesty in facing one's own biases and prejudices', were not mentioned by any teachers, which might be due to the small sample in this research. Therefore, further research in a larger sample in the context of religious education or other subject areas is required to examine the evidence of these dispositions in the teachers' perception of critical thinking.

One of the findings discerned from the analysis of interviews was the lack of awareness of developing critical thinking by one of the RE teachers. He graded critical thinking based on its formality (from general style to the academic critical thinking), and for him critical thinking was not developed in the first level. However, the analysis of his discussion about what he understood as the lowest level showed the elements of critical thinking, according to my framework. In addition, in his second level, where he emphasised the development of critical thinking, only the cognitive skills of critical thinking were mentioned. In other words, the interesting point was that he didn't think he was developing critical thinking in pupils, as he had a sophisticated view of critical thinking, and therefore he might not see critical thinking as relevant to his work. However, investigating what he said he was doing made it clear that he was indeed engaged in developing critical thinking. One possible reason for the teachers' varied and sometimes inconsistent view of critical thinking is the lack of unique curriculum-based sources for teachers, in addition to any official and academic programme to teach them the theoretical concept of critical thinking and its practical development in their teacher education.

Observation and understanding of such variety is important, because according to the official documents, critical thinking is introduced as one of the main purposes and objectives of religious education which should be considered by RE teachers. If there is no clear idea regarding such an important purpose and how it could be achieved, we could not expect its full realization in the education system. A systemic and precise picture of critical thinking is a prerequisite to achieve it as a meaningful educational goal (Kuhn, 1999). Previous research has shown that if teachers have a developed idea of critical thinking, this leads to more thoughtfulness in classrooms (Onosko, 1991). On the other hand, teachers' misconceptions of critical thinking could inhibit the development of critical thinking. For example, if a teacher holds a 'generalised view' of critical thinking, any kind of good thinking would be perceived as critical thinking. Therefore, the traditional religious education which involves this kind of thinking would be perceived sufficient, with no required change towards 'real' critical thinking.

Another key finding of this study related to the teachers' knowledge of the position of critical thinking in RE curriculum documents. According to this finding none of these RE teachers had a comprehensive knowledge about how the term critical thinking was employed in RE curriculum documents. This might show that they had not studied these documents deeply regarding critical thinking. This problem was also reinforced by the absence of clear definitions of the term critical thinking in these curriculum documents.

9.2.4. Role of RE Curriculum Documents in Teachers' Understanding of Critical Thinking

The last question of the study was:

What is the role of RE curriculum documents in shaping teachers' understanding of critical thinking in religious education?

Analysis of the factors teachers referred to in shaping their understanding of critical thinking uncovered the variety of their personal or social or professional backgrounds. However none of them pointed to the curriculum documents as one of these factors. While they were aware of these documents, this might be due to the vagueness of documents in defining a clear meaning of critical thinking. The meaning of critical thinking has neither been explicitly

defined in the main curriculum documents for teachers, nor has there been any nation-wide scheme to provide a shared concept of critical thinking in different sectors. Therefore, the lack of a unique curriculum-based resource for RE teachers, even in the same sectors, might be the reason they did not use the RE curriculum documents to help them develop their perception of critical thinking.

The combination of results from the analysis of critical thinking in curriculum documents and teachers accounts shows that implementation of an intended change in the education system is not an easy task. The simple inclusion of a specific approach in the documents will not lead to reform if it is not communicated well with the different players in the education system. Schools and teachers should be well informed and equipped, curricula should be clearly formulated, the students should be prepared and external stakeholders such as the wider community and society should be actively engaged if such a fundamental change is to be rooted and observed in the classrooms. In this process, the curriculum documents will have only a marginal role if other influential factors are not taken into account.

My analysis shows that in the current situation, the role of curriculum documents has been marginal in driving intended change in the education system in Scotland because of two sets of factors which appeared in the evidence uncovered in this study. Firstly, the teachers' accounts of critical thinking had not been drawn from the documents. Secondly, the particular approaches to religion, which varied between the two sectors, were not reflected in teachers' perception. It seems that social-cultural forces had been more powerful than the official documents in shaping how these teachers viewed critical thinking and its position in religious education. Further studies could shed light on the conditions under which a curriculum document could play a more constructive role in changing the direction of the education system.

9.3. Key Findings of the Research

Analysis of all curriculum documents of religious education in terms of critical thinking and also the RE teachers' understanding of critical thinking in both sectors, Roman Catholic and non-denominational, in this research has crucial findings. The significant findings of this study are listed in this section as:

- A hierarchical framework of critical thinking
- An account of the usefulness of the framework in analysis of teachers' accounts and RE curriculum documents
- The applicability of the framework to other subject areas
- The improvement of the framework based on the empirical studies
- The similarity in emphasis on lower level thinking skills in RE document of both sectors
- The similarity in development of critical thinking in the process of teaching and learning RE in documents of both sectors
- The identification of more emphasis on dispositions in RE documents of Roman Catholic sector
- The vagueness of all RE documents in defining and developing critical thinking
- The identification of 'Respectfulness in facing divergent beliefs' as a new and frequently used disposition in RE documents of both sectors and evident in teachers' accounts
- The identification of differences in approaches to religion and its relation to critical thinking in RE curriculum documents
- The identification of similar expression of elements of critical thinking in teachers' perceptions
- The identification of similar expression of dispositions in teachers' understandings of critical thinking
- The variety of teachers' overall approaches to critical thinking
- The lack of complete knowledge amongst RE teachers of integration of critical thinking in RE curriculum documents

9.4. Implications for Practice

The findings from this study have the following implications for practice:

The designed framework of critical thinking in this research is a conceptual and practical tool which can be used for a comprehensive analysis of religious education, including the whole curriculum regarding curriculum documents, RE resources and teachers' perceptions of critical thinking. This framework could also be used by teachers and curriculum designers to

not only make a general sense of critical thinking but also to investigate the perceptions, resources and curriculum documents of any subject areas in terms of critical thinking. Moreover, the addition of the particular disposition, 'respectfulness', has offered a rich framework of critical thinking which is specifically appropriate for the analysis of critical thinking in religious education. This framework can then be applied by researchers to explore and compare the position of critical thinking in religious education curricula in different sectors and countries.

The important results of this study might help the curriculum designers and educators by raising their awareness of the significance of integrating and teaching critical thinking generally in all curriculum areas and its necessity, particularly in religious education. Accordingly, this research suggests that they should address the weakness of RE curriculum documents to provide a clear, comprehensive and consistent definition of critical thinking. Furthermore, based on the finding that showed less emphasis on critical thinking in the *Experiences and Outcomes* of early stages in secondary schools, I recommend the curriculum designers to include critical thinking in the *Experiences and Outcomes* of the simpler issues, in order to make pupils engage critically in early stages.

In addition to theoretical clarification of critical thinking in curriculum documents, as a significant element in learning and teaching RE, the research can provide recommendations for the problem of teachers' perceptions of critical thinking. As the teachers and how they understand critical thinking have the key role in the development of critical thinking in learners through religious education, teacher educators should consider designing a well-defined training programme for teachers to develop a fuller understanding of critical thinking. This could include teacher resources or teacher education courses with emphasis specifically on meta-cognitive skills and dispositions of critical thinking and how to develop them among learners. In addition, in order to implement critical thinking in religious education and also in all other curriculum areas precisely and completely, this research suggests teacher training in this aspect in the form of pre-service and in-service education.

The education policy makers could also employ the suggested framework to promote the incorporation of a comprehensive concept of critical thinking in different subject areas of the

education system, and also employ the same framework in order to evaluate the implementation of critical thinking.

9.5. Implications for Research

In this section recommendations for future research are provided regarding guidance for researchers intending to investigate critical thinking in different curriculum areas and also to explore teachers' understanding of critical thinking.

One of the findings of this research was that there was more emphasis on dispositions of critical thinking in the RE curriculum documents of Roman Catholics schools. Although some explanations were presented in the previous chapter, obtaining a deeper understanding of the factors behind this issue requires further research.

This study also showed that the elements of critical thinking in the framework were applicable in the analysis of documents, although underlying different approaches should also be explored in order to understand how critical thinking is shaped within particular contexts. The compatibility and consistency of the context with the core idea of critical thinking should also be considered. Therefore, there is an open question for further research which is: what minimum characteristics are acceptable to define critical thinking in a particular context, whether it is religious education or any other subject area?

One important unexpected point was that I could not find a meaningful difference between teachers of both sectors in terms of their conceptualization of critical thinking, although such a difference was visible in the documents. I recommend such a question be scrutinized by further research on teachers' practices in the classroom, using observation methods. This method could provide a deeper understanding on the realities of the critical approaches of religious education in two sectors.

As this study was carried out based on the teachers' perceptions of critical thinking, the missing part here is how they develop critical thinking through religious education in practice, and also how the pupils learn the skills of critical thinking. Therefore, future research is required to investigate what is done by teachers in RE classrooms in terms of

critical thinking. In addition, I suggest an expanded study on a larger sample of RE teachers from a wider range of local authorities to investigate their accounts of critical thinking and also their teaching methods used to foster critical thinking in pupils through religious education. The larger sample would provide the opportunity to explore the relation between teachers' perceptions of critical thinking and the effectiveness of their teaching methods in developing critical thinking in pupils.

Moreover, further research can be undertaken on the integration of critical thinking in the RE resources chosen and used in different schools in both sectors. Moreover, as the teachers have the main role in presenting the context of resources, the research on resources needs to be carried out along with the exploration of how RE teachers teach them in the classroom.

More research is also needed to focus on the integration of critical thinking in other curriculum areas, including the curriculum documents, resources and teachers' perceptions of critical thinking in different subject areas.

9.6. Summary

In this chapter, I have summarised the findings and reflected on how they answered the research questions. This study offers both theoretical and empirical contributions to academic knowledge. On the theoretical side, this study has developed an original and operational framework of critical thinking. From the empirical perspective, it has applied the framework to analyse how widely and deeply critical thinking is integrated, implicitly or explicitly, in RE curriculum documents and also shed light on teachers' perceptions of critical thinking. In addition to academic contributions, the findings of this study have practical implications. What makes this study important is its focus on RE curriculum documents and on teachers' accounts of critical thinking. The findings can help curriculum designers to understand the strengths and weakness of the existing documents in terms of critical thinking and provide guidance on attempts to improve them. This study can also contribute to the curriculum discourse about the educational value of RE in the contemporary plural and multi-cultural society and how critical thinking might enhance the expected educational advantages. Moreover, the framework of critical thinking which has been designed in this research can be used by curriculum designers and teachers in order to evaluate not only religious education

documents and resources but also those in other subject areas in education, in terms of critical thinking. In addition, I have suggested recommendations for possible ways forward. In conclusion, this research has provided an opportunity for learning about the position of critical thinking in religious education by developing an operational framework of critical thinking.

References

- Abrami, P. C., Bernard, R. M., Borokhovski, E., Wade, A., Surkes, M. A., Tamim, R., & Zhang, Dai. (2008). Instructional interventions affecting critical thinking skills and dispositions: A stage 1 meta-analysis. *Review of Educational Research*, 78(4), 1102-1134.
- Alazzi, K. F. (2008). Teachers' perceptions of critical thinking: A study of Jordanian secondary school social studies teachers. *The Social Studies*, 99(6), 243-248.
- Alosaimi, K. H. (2013). *The development of critical thinking skills in the sciences* (Doctoral dissertation, University of Dundee).
- Anderson, G. (2001). *Fundamentals of educational research*. 2nd ed. London: Routledge Falmer.
- Anderson, L.W., & Krathwohl, D. R. (2001). *Taxonomy for learning, teaching and assessing: a revision of Bloom's taxonomy of educational objectives*. New York: Longman.
- Atkinson, P., & Coffey, A. (2004). Analysing documentary realities. In Silverman, D. *Qualitative research*. London: Sage.
- ATRES, The association for the Teaching of Religious Education in Scotland, (2009). <http://atres.org.uk/index.asp>
- Ary, D., Jacobs, L., & Sorensen, C. (2010). *Introduction to research in education*. Donald Belmont, CA : Thomson/Wadsworth.
- Baildon, M. C., & Sim, J. B-Y. (2009). Notions of criticality: Singaporean teachers' perspectives of critical thinking in social studies. *Cambridge Journal of Education*, 39(4), 407-422.
- Bailin, S., Case, R., Cooms, J.R., & Daniels, L.B. (1999). Common misconceptions of critical thinking. *Journal of Curriculum Studies*, 31 (3), 269-283.
- Barak, M., Ben-Chaim, D., & Zoller, U. (2007). Purposely teaching for the promotion of higher-order thinking skills: A case of critical thinking. *Research in Science Education*, 37, 353-369.
- Barnes, L. P. (2000). Ninian Smart and the phenomenological approach to religious education. *Religion*, 30, 315-332.
- Barnes, L. P. (2006). The misrepresentation of religion in modern British (religious) education. *British Journal of Educational studies*, 54(4), 395-411.
- Barnes, L. P., & Kay, W. K. (2000). Developments in religious education in England and Wales (Part 2): Methodology, politics, citizenship and school performance. *Themelios*, 25, 5-19.

- Basit, T. N. (2010). *Conducting research in educational contexts*. London: continuum.
- Baumfield, V. (2009). Does RE work? What could this question mean and what might an answer look like? *RE Today*.
- Bell, J. (2009). *Doing your research project*. 4th ed. Berkshire: Open University Press.
- Blaikie, N. (2009). *Designing social research*. Cambridge: Polity Press.
- Bloom, B. S. (1956). *Taxonomy of educational objectives, the classification of educational goals – Handbook I: cognitive domain*. New York: McKay.
- Bloomberg, L., & Volpe, V. (2008). *Completing qualitative research: A roadmap from beginning to end*. Thousand Oaks: Sage Publication.
- Bogdan, R. C., & Biklen, S. K. (1998). *Qualitative research for education: An introduction to theory and methods*. Boston: Allyn and Bacon.
- Bos, W., & Tarnai, C. (1999). Content analysis in empirical social research. *International Journal of Educational Research*. 31,659-671.
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative research journal*, 9(2), 27-40.
- Boyatzis, R.E. (1998). *Transforming qualitative information: thematic analysis and code development*. Lodon: Sage Publication.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3 (2). 77-101.
- Brown, A. L. (1997). Transforming schools into communities of thinking and learning about serious matters. *American Psychologist*, 52(4), 399-413.
- Bryman, A. (2015). *Social research methods*. 5th edition. Oxford: Oxford University Press.
- Bullen, M. (1998). Participation and critical thinking in online university distance education. *Journal of Distance Education*, 13(2).
- Burke, L., Williams, J., & Skinner, D. (2007). Teachers' perceptions of thinking skills in the primary curriculum. *Research in Education*, 77(1), 1-13.
- Carmody, B. (2010). Interreligious education and the question of truth. *International Handbooks of Religion and Education*, 4(1), 41-55.
- Carr, D. (1994). Knowledge and truth in religious education. *Journal of Philosophy of Education*, 28(2), 221-238.

Carr, D. (2004). Reason, meaning and truth in Religious narrative: Towards an epistemic rationale for religious and faith school education. *Studies in Christian Ethics*, 17(1), 38-53.

Carr, D. (2007). Religious education, religious literacy and common schooling: a philosophy and history of skewed reflection. *Journal of Philosophy of Education*, 41(4), 659-673.

Cassum, S. H., Profetto-McGrath, J., Gul, R. B., Dilshad, A., & Syeda, K. (2013). Multidimensionality of critical thinking: A holistic perspective from multidisciplinary educators in Karachi, Pakistan. *Journal of Nursing Education and Practice*, 3(7), 9.

Choy, S. C., & Cheah, P. K. (2009). Teacher perceptions of critical thinking among students and its influence on higher education. *International Journal of teaching and learning in Higher Education*, 20(2), 198-206.

Cohen, L. Manion, L., & Morrison, K. (2007). *Research methods in education*. 6th ed. London and New York: Routledge.

Coll, R. (2015). Catholic religious education in Scotland: Bringing the gap between teacher education and curriculum delivery. In: Buchanan, M. T. & Gellel, A. M. (eds). *Global perspectives of Catholic religious education in schools*. Springer: Cham, 179-193.

Coll, R., & Davis, R. A. (2007). Faith schools and state education: Church-state relations and the development of the 5-14 religious education program in Scotland. *Catholic Education: A Journal of Inquiry and Practice*, 11(1), 67-82.

Congregation for Catholic Education, *The religious dimension of education in a Catholic school, Guidelines for reflection and renewal*. (1988).

http://www.vatican.va/roman_curia/congregations/ccatheduc/documents/rc_con_ccatheduc_d oc_19880407_catholic-school_en.html

Congregation for Catholic Education, *Circular letter to the presidents of Bishops' conferences on religious education in schools*. (2009).

http://www.vatican.va/roman_curia/congregations/ccatheduc/documents/rc_con_ccatheduc_d oc_20090505_circ-insegn-relig_en.html

Conroy, J. C. (2001). A very Scottish affair: Catholic education and the state. *Oxford Review of Education*. 27 (4). 543-558.

Conroy, J. C. (2009). *Does religious education work?* ESRC Britain.

Conroy, J. C., & McKinney, S. J. (2010). Religious and spiritual education. In Baker, E., McGaw, B., & Peterson, P. (eds.) *International Encyclopaedia of Education*. (pp.189-193). Elsevier: London.

Corbin Dwyer, S., & Buckle, J. (2009). The space between: On being an insider-outsider in qualitative research. *International Journal of Qualitative Methods*, 8(1), 54-63.

Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into practice*, 39(3), 124-130.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Curriculum for Excellence (CfE). 2015.

<http://www.educationscotland.gov.uk/learningandteaching/thecurriculum/whatiscurriculumforexcellence/>

Del Bueno, D. (2005). A crisis in critical thinking. *Nursing Education Perspectives*, 26(5), 278-282.

DeMarrais, K. (2004). Qualitative interview studies: Learning through experience. In K. DeMarrais & S. D. Lapan (Eds.), *Foundations for Research*, (pp.51-68). Mahwah, NJ: Erlbaum.

Denzin, N. K. and Lincoln, Y. S. (1994). *Handbook of qualitative research*. Thousand Oaks, CA. London: Sage.

Dewey, J. (1997). *How we think*, Dover Publication.

Diener, E & Crandall, R. (1978). *Ethics in social and behavioural research*. Oxford: Chicago Press.

Dike, S. E., Frances, K. K., Reed, C., & Ross, M. (2006). Exploring conception of critical thinking held by military educators in higher education settings. *International Journal of Leadership in Education*, 9(1), 45-60.

Dowling, M. (2006). Approaches to reflexivity in qualitative research. *Nurse Researcher*. 13 (3), 7-21.

Dwyer, C. P, Hogan, M. J, & Stewart, I. (2014). An integrated critical thinking framework for the 21st century. *Thinking Skills and Creativity*, 12, 43-52.

Education Scotland. (2015a). Accessed Aug 2015.

<http://www.educationscotland.gov.uk/learningandteaching/curriculumareas/rme/nondenominational/principlesandpractice/index.asp>

Education Scotland. (2015b). Accessed Aug 2015.

<http://www.educationscotland.gov.uk/learningandteaching/curriculumareas/rme/nondenominational/eandos/index.asp>

Education Scotland. (2015c). Accessed Aug 2015.

<http://www.educationscotland.gov.uk/learningandteaching/curriculumareas/rme/lerc/principlesandpractice/index.asp>

Education Scotland. (2015d). Accessed Aug 2015.

<http://www.educationscotland.gov.uk/learningandteaching/curriculumareas/rme/lerc/eandos/index.asp>

- Ennis, R. H. (1989). Critical thinking and subject specificity: Clarification and needed research. *Educational Researcher*, 18(3), 4-10.
- Ennis, R. H. (1990). The extent to which critical thinking is subject-specific: Further clarification. *Educational Researcher*, 19(4), 13-16.
- Ennis, R. H. (1996). Critical thinking dispositions: their nature and assessability. *Informal Logic*, 18, 165-182.
- Ennis, R. H. (1998). Is critical thinking culturally biased? *Teaching Philosophy*, 21(1), 15-33.
- Ennis, R. H. (2011a). Critical thinking: Reflection and perspective part I. *Enquiry: critical thinking across the discipline*, 26 (1). 4-18.
- Ennis, R. H. (2011b). Critical thinking: Reflection and perspective part II. *Enquiry: critical thinking across the discipline*, 26 (2). 5-19.
- Etsuko, Y. (2009). Discussion on the concept of 'criticality'. *Literacies WEB Journal*, 6 (1). 11-20.
- Facione, P. A. (1990). *Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction*.
- Facione, P. A. (1992). *Critical thinking: What it is and why it counts*. ed. 2006. Retrieved from www.insightassessment.com
- Facione, P. A. (2000). The disposition toward critical thinking: Its character, measurement, and relationship to critical thinking skill. *Informal Logic*. 20 (1). 61-84.
- Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International journal of qualitative methods*, 5(1), 80-92.
- Fisher, A. (2001). *Critical thinking, an introduction*. Cambridge: Cambridge University Press.
- Fisher, R. (1990). *Teaching children to think*. Oxford: Blackwell.
- Fitzpatrick, T. (2003). Catholic education in Scotland. In Bryce, T.G.K. & Humes, W.M. *Scottish education: Second edition post devolution*. (pp.272-282). Edinburgh: Edinburgh University Press.
- Forehand, M. (2005). Bloom's taxonomy: Original and revised. In Orey, M. ed. *Emerging perspectives on learning, teaching, and technology*. Retrieved from <http://www.coe.uga.edu/epltt/bloom.htm>
- Fox, H. (1994). *Listening to the world: Cultural issues in academic writing*. National Council of Teachers of English, Illinois.

Fraenkel, J., & Wallen, N. (2003). Observation and interviewing. In, J. Fraenkel, & N. Wallen (Eds.), *How to design and evaluate research in education*. 5th ed. (pp.451-464). New York: McGraw-Hill Higher Education.

Frijters, S., Ten Dam, G., & Rijlaarsdam, G. (2008). Effects of dialogic learning on value-loaded critical thinking. *Learning and Instruction*, 18, 66-82.

Fritz, K. (2008). *Ethical issues in qualitative research*. Retrieved from <http://ocw.jhsph.edu/courses/QualitativeDataAnalysis/PDFs/Session12.pdf>.

Garrison, D. R. (1991). Critical thinking and adult education: A conceptual model for developing critical thinking in adult learners. *International Journal of Lifelong Education*, 10(4), 87-303.

Gashan, A. K. (2015). Exploring Saudi pre-service teachers' knowledge of critical thinking skills and their teaching perceptions. *International Journal of Education & Literacy Studies*, 3(1), 26.

Gee, J. P. (2004). *Situated language and learning: A critique of traditional schooling*. Psychology Press.

Gellin, A. (2003). The effect of undergraduate student involvement on critical thinking: A meta-analysis of the literature 1991-2000. *Journal of College Student Development*, 44(6), 746-762.

Gelman, S. A., & Markman, E. M. (1986). Categories and induction in young children. *Cognition*, 23, 183-209.

Gibson, G. (1995). Critical thinking: implications for instruction. *Reference & User Services Quarterly (RQ)*, 35, 27-35.

Giroux, H. (1994). *Toward a pedagogy of critical thinking*. State University of New York: Albany.

Gold, J., Holman, D., & Thrope, R. (2002). The role of argument analysis and storytelling in facilitating critical thinking. *Management Learning*, 33(3), 371-388.

Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *ECTJ*, 29(2), 75-91.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of qualitative research*, 105-117.

Halpern, D. F. (1998). Teaching critical thinking for transfer across domains. *American Psychologist*, 53(4), 449-455.

Halpern, D. (2002). *Thought and knowledge: An introduction to critical thinking*. 4th ed. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

- Hartman, H., & Sternberg, R. J. (1993). A broad BACEIS for improving thinking. *Instructional Science*, 21, 401-425.
- Hashemi, S. A., Naderi, E., Shariatmadari, A., Seif Naraghi, M. & Mehrabi, M. (2010). Science production in Iranian educational system by the use of critical thinking. *International Journal of Instruction*, 3(1), 61-76.
- Hayes, K. D., & Devitt, A. A. (2008). Classroom discussions with student-led feedback: a useful activity to enhance development of critical thinking skills. *Journal of Food Science Education*, 7, 65-68.
- Hella, E., & Wright, A. (2009). Learning about and from religion: phenomenography, the variation theory of learning and religious education in Finland and the UK. *British Journal of Religious Education*, 31(1), 53-64.
- Heyman, G. D., & Legare, C. H. (2005). Children's evaluation of sources of information about traits. *Developmental Psychology*, 41(4), 636-647.
- Holstein, J. A., & Gubrium, J. F. (2004). The active interview. In Silverman, D. *Qualitative research*. London: Sage.
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277-1288.
- Innabi, H., & El Sheikh, O. (2007). The change in mathematics teachers' perceptions of critical thinking after 15 years of educational reform in Jordan. *Educational Studies in Mathematics*, 64(1), 45-68.
- Jackson, R. (1997). *Religious Education: An interpretive approach*. London: Hodder & Stoughton.
- Jackson, R. (2003). *International perspectives on citizenship, education and religious diversity*. London: Routledge Falmer
- Jackson, R. (2004). *Rethinking religious education and plurality: Issues in diversity and pedagogy*. London: Routledge Falmer.
- Jackson, R. (2009). Understanding religious diversity in a plural world: The interpretive approach. *International Handbook of the Religious, Moral and Spiritual Dimensions in Education*, 399-414.
- Jackson, R. & Nesbitt, E. (1993). *Hindu children in Britain*. Stoke on Trent: Trentham.
- Jackson, R. & O'Grady, K. (2007). *Religions and education in England social plurality, civil religion and religious education pedagogy*. Religion and religious education pedagogy.
- Jackson, R., Ipgrave, J., Hayward, M. & Hopkins, P. (2010). *Materials used to teach about world religions in schools in England*. Warwick, Warwick religion and education research unit, university of Warwick.

- Jaswal, V. K., & Neely, L. A. (2006). Adults don't always know best: Pre-schoolers use past reliability over age when learning new words. *Psychological Science*, 17(9), 757-758.
- Jeong, A. C. (2003). The sequential analysis of group interaction and critical thinking in online threaded discussions. *The American Journal of Distance Education*, 17(1), 25-43.
- Jewell, P. (1996). *A reasoning taxonomy for gifted children*. Paper presented at the National Conference of the Australian Association for the Education of the Gifted and Talented, Adelaide. At www.nexus.edu.au/teachstud/gat/jewell1.htm , 13 May 2002.
- Kanik, F. (2010). *An assessment of teachers' conceptions of critical thinking and practices for critical thinking development at seventh grade level*. Ankara, Middle East Technical University.
- Kanuha, V.K. (2000). "Being" native versus "going native": conducting social work research as an insider. *Social Work*, 45(5), 439-447.
- Kaplan, L. D. (1991). Teaching intellectual autonomy: The failure of the critical thinking movement. *Educational Theory*, 41(4), 361-370.
- Kennedy, M., Fisher, M. B., & Ennis, R. H. (1991). Critical thinking: Literature review and needed research. In L. Idol & B.F. Jones (Eds.), *Educational values and cognitive instruction: Implications for reform*, 11-40. Hillsdale, New Jersey: Lawrence Erlbaum & Associates.
- Koh, A. (2000). Toward a critical pedagogy: creating 'thinking schools' in Singapore. *Curriculum Studies*, 34(3), 255-264.
- Kong, S. L. (2005). *Critical thinking dispositions of pre-service teachers in Singapore: A preliminary investigation*. Available from <https://www.aare.edu.au/01pap/kon01173.htm>.
- Krathwohl, D, R. (2002). A revision of Bloom's taxonomy: An overview. *Theory Into Practice*. 41(4), 212-218.
- Kuhn, D. (1999). A developmental model of critical thinking. *Educational Researcher*, 28(2), 16-26.
- Kuhn, D. (2000). Metacognitive development. *Current directions in psychological science*, 9(5), 178-181.
- Kvale, S. (1996). *Interviews: an introduction to qualitative research interviewing*. Thousand oaks.CA. London: Sage.
- Kvale, S. (2007). *Doing interviews*. London: Sage Publications.
- Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing*. 2nd ed. London: Sage.

- Lai ER. (2011). *Critical thinking: a literature review*. Pearson's Research Report Series. (Online) 2011. Available: <http://www.pearsonassessments.com/research> (Accessed 12 August 2015).
- Lee, H. A. (2010). *Thinking levels in Christian publishers' elementary reading textbook questions*. Doctor of Education. Columbia International University.
- Lewis, A., & Smith, D. (1993). Defining higher order thinking. *Theory into Practice*, 32(3), 131-137.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. London: SAGE publication.
- Lipman, M. Sharp, A. M., & Oscanyan, F. S. (1980). *Philosophy in the classroom*, Temple University Press.
- Lipman, M. (1988). Critical thinking what can it be? *Educational Leadership*. 46(1), 38-43.
- Lipman, M. (1991). *Thinking in education*. Cambridge: Cambridge University Press.
- Lipman, M. (2003). *Thinking in education*. 2nd ed. Cambridge: Cambridge University Press.
- Luby, A. (2010). This is or faith; Evangelisation, confessionalism and criticality. *Journal of religious education*. 58 (2). 37-48.
- MacFarlane, S. (1991). Footnotes to play-dough. *British Journal of Religious Education* 13(2), 101-108.
- Malamitsa, A. Kasoutas, M., & Kokkotas, P. (2009). Developing Greek primary school students' critical thinking through an approach of teaching science which incorporates aspects of history of science. *Science & Education*, 18, 457-468.
- Marzano, R. J. (2001). *Designing a new taxonomy of educational objectives*. Thousand Oaks, CA: Corwin Press.
- Mazer, J. P., Hunt, S. K., & Kuznekoff, J. H. (2007). Revising general education: assessing a critical thinking instructional model in the basic communication course. *The Journal of General Education*, 56(3-4), 173-199.
- McKinney, S. J. (2007). *Catholic schools in Scotland: Mapping the contemporary debate and their continued existence in the 21st century*. (Doctoral Dissertation, University of Glasgow).
- McPeck, J. (1990). Critical thinking and subject specificity: A reply to Ennis. *Educational Researcher*, 19(4), 10-12.
- Mejía, A. D. (2005). *Some philosophical issues about the promotion of critical thinking in education*. Philosophy of Education Society of Great Britain (PESGB). Oxford.
- Merriam, S. (2009). *Qualitative research: A guide to design and implementation*. John Wiley & Sons, Inc, CA: San Francisco.

- Mertler, C. A. (2003). *Classroom assessment: A practical guide for educators*. Los Angeles: Pyczak Publishing.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Thousand Oaks, CA: Sage.
- Mitreviski, B., & Zajkov, O. (2011). Mathematics and science teachers' concept of critical thinking. *Bulgarian Journal of Physics*, 38. 318-324.
- Moore, T. (2004). The critical thinking debate: How general are general thinking skills? *Higher Education: Research and Development*, 23(1), 3–18.
- Moore, T. (2013). Critical thinking: seven definitions in search of a concept. *Studies in Higher Education*, 38(4), 506-522.
- Moseley, D., Baumfield, V., Higgins, S., Lin, M., Miller, J., Newton, D, ... Gregson, M. (2004). *Thinking skill frameworks for post-16 learners: an evaluation*, Learning & Skills Research Centre.
- Moseley, D., Elliott, J., Gregson, M., & Higgins, S. (2005). Thinking skills frameworks for use in education and training. *British Educational Research Journal*, 31(3), 367-390.
- National Education Goals Panel. (1991). <http://govinfo.library.unt.edu/negp/>
- Nicholls, J. (2003). Methods in school textbook research, *International Journal of Historical Learning, Teaching and Research*, 3 (2).
- Nicholls, J. (2005). The philosophical underpinnings of school textbook research, *Paradigm*, 3 (1).
- Nixon, G. (2009). An analysis of the 'philosophication' of Scottish religious education in light of social and educational change. *Journal of Empirical Theology*, 22, 162-194.
- O'Brien, J., MacLeod, G. (2009). *The social agenda of the school*. Series: Policy and practice in education, 12. Dunedin Academic Press: Edinburgh, UK.
- Onosko, J. J. (1991). Barriers to the promotion of higher-order thinking in social studies. *Theory and Research in Social Education*. 19 (4). 341-366.
- Oppenheim, A. N. (1992). *Questionnaire design, Interviewing and attitude Measurement* (New edition). London: Continuum.
- Patton, M. Q. (1990). *Qualitative evaluation and research methods*. 2nd ed. Newbury: SAGE Publications.
- Patton, M.Q. (2014). *Qualitative research and evaluation methods*. 4th ed. Thousand Oaks, CA: SAGE.

Paul, R. (1993). *Critical thinking – what every person needs to survive in a rapidly changing world*. 3rd ed. Santa Rosa, CA: Foundation for Critical Thinking.

Paul, R. Fisher, A., & Nosich, G. (1993). *Workshop on critical thinking strategies*. Foundation for Critical Thinking, Sonoma state University, CA.

Paul, R. (1995). *The critical thinking movement: 1970-1997*. The fifteenth annual international conference on Critical Thinking and Educational Reform. Sonoma State University.

Paul, R. Elder, L., & Bartell, T. (1997). *A brief history of the idea of critical thinking California teacher preparation for instruction in critical thinking*. State of California.

Paul, R., & Elder, L. (2005). *The thinker's guide to the nature and functions of critical & creative thinking*, Foundation for Critical Thinking.

Paul, R. (2007). *Critical thinking in every domain of knowledge and belief*. The 27th Annual International Conference on Critical Thinking Berkeley, CA Foundation for Critical Thinking.

Paul, R., & Elder, L. (2007). *The miniature guide to critical thinking concepts and tools*. The 27th Annual International Conference on Critical Thinking Berkeley, CA Foundation for Critical Thinking.

Perkins, D. N. (1990). The nature and nurture of creativity. In B. F. Jones & L. Idol (Eds.), *Dimensions of thinking and cognitive instruction*. 415-443. Hillsdale, NJ: Lawrence Erlbaum Associates.

Phan, H. P. (2008). Predicting change in epistemological beliefs, reflective thinking and learning styles: A longitudinal study. *British Journal of Educational Psychology*, 78, 75-93.

Pithers, R. T., & Soden, R. (2000). Critical thinking in education: a review. *Educational Research*, 42(3), 237-249.

Presseisen, B. Z. (2001). Thinking skills: meanings and models revisited. In *Developing minds: a resource book for teaching thinking, vol 1*, (pp.47-53). AL Costa, 3rd ed. Alexandria, VA: Association for Supervision and Curriculum Development.

Prihatin, P. N. (1997). *The use of children's literature to promote critical thinking abilities in primary schools in Indonesia*. Indonesia: La Trobe University Med.

Priestley, M., & Humes, W. (2010). The development of Scotland's Curriculum for Excellence: amnesia and déjà vu. *Oxford Review of Education*, 36(3), 345-361.

Priestley, M., Minty, S., & Eager, M. (2014). School-based curriculum development in Scotland: Curriculum policy and enactment. *Pedagogy, Culture & Society*, 22(2), 189-211.

Ragin, C. C. (2014). *The comparative method: Moving beyond qualitative and quantitative strategies*. University of California Press.

Rawadieh, S. M. (1998). *An analysis of the cognitive levels of questions in Jordanian secondary social studies textbooks according to Bloom's taxonomy*. (Doctoral Dissertation, Ohio University).

Reck, S. (2008). *Colouring with Brown Crayons: Evaluating Religious Education Curriculum*. (Doctoral Dissertation, University of Alberta).

Religious Education Curriculum Directory (3-19), for Catholic schools and colleges in England and Wales. (2012). London: The Department of Catholic education and formation of the Catholic Bishops' conference of England and Wales.

Reynolds, S. W. (2016). *Determining and exploring teachers' perceptions on the barriers to teaching critical thinking in the classroom: A survey study* (Doctoral dissertation, Texas Tech University).

Riddell, S., Ahlgren, L., McCluskey, G. & Weedon, E. (2009). *Religious education in a multi-cultural society: school and home in comparative text*. Edinburgh, Centre for research in education inclusion and diversity (CREID), University of Edinburgh.

Riddell, S. Ahlgren, L., & Weedon, E. (2009). *Religious education in multi-cultural context: report of the key informant interviews*. Working Paper.

Riessman, C.K. (1993). *Narrative analysis*. London: SAGE.

Risner, G. P. (1987). *Cognitive levels of questioning demonstrated by test items that accompany selected fifth-grade science textbooks*. (Doctoral dissertation, Vanderbilt University).

Robson, C. (2002). *Real world research*. 2nd ed. Oxford: Blackwell.

Romiszowski, A. J. (1981). *Designing instructional systems: decision making in course planning and curriculum design*. London: Kogan Page.

Rubin, H. J. & Rubin, I. S. (1995). *Qualitative interviewing: The art of hearing data*. London: SAGE.

Schools Council. (1971). Working Paper 36: *Religious education in secondary schools*. London: Evans/Methuen.

Scottish Catholic Education Service (SCES). Accessed 2015. <http://www.sces.uk.com/>

Scottish Education Department. (1972). *Moral and RE in Scottish schools (The Millar Report)*. Report of a committee appointed by the secretary of state for Scotland, Edinburgh: Scottish Education Department, Edinburgh: HMSO.

Scottish Executive. (2006). *Curriculum for excellence Building the curriculum 1: the contribution of curriculum areas a guide to developing professional practice*. Edinburgh: Scottish Executive.

Scottish Government, (2008a), *Building the Curriculum 3: a framework for learning and teaching*. Edinburgh: Scottish Government.

SEED. (2006). *A Curriculum for Excellence: Progress and Proposals*. Edinburgh: Scottish Executive.

Silva, E. (2008). *Measuring skills for the 21st century* [Report]. Washington, DC: Education Sector. Retrieved from http://www.educationsector.org/usr_doc/MeasuringSkills.pdf.

Silverman, D. (2000). *Doing qualitative research: a practical guide*. Thousand Oaks, CA: SAGE.

Smart, N. (1968). *Secular education and the logic of religion*. London: Faber and Faber.

Sternberg, R. (1987). Questions and answers about the nature and teaching of thinking skills. In J. B. Baron, & R. Sternberg (Eds.), *Teaching thinking skills: Theory and practice*. (pp. 251-259). New York: W. H. Freeman and Company.

Stiggins, R. J, Rubel, E., & Quellmalz, E. (1988). *Measuring thinking skills in the classroom*, (revised eds.). Washington, D. C: National Education Association.

Streib, J. T. (1992). *History and analysis of critical thinking*. EdD. Memphis State University.

Sumner, W. G. (1906). *Folkways: A study of the sociological importance of usages, manners, customs, mores, and morals*. Ginn and Company.

Supovitz, J. A., & Weinbaum, E. H. (2008). Reform implementation revisited. In Supovitz, J. A., & Weinbaum, E. H. *The implementation gap: Understanding reform in high schools*, (pp.1-21). New York: Teachers College Press.

Ten Dam, G., & Volman. M. (2004). Critical thinking as a citizenship competence: teaching strategies. *Learning and Instruction*, 14, 359-379.

Thayer-Bacon, B. J. (1993). Caring and its relationship to critical thinking. *Educational theory*, 43(3), 323-340.

This is our faith, (2011). Published on behalf of the Bishops' conference of Scotland. Glasgow: Scottish Catholic Education Service.

Thorpe, A. (1997). The critical thinking skills movement and its implications for religious education. *Journal of Education & Christian Belief*, 1(2), 119-126.

Tsui, L. (1999). Courses and instruction affecting critical thinking. *Research in Higher Education*, 40(2), 185-200.

Tsui, L. (2006). Cultivating critical thinking: insights from an Elit liberal arts college. *The Journal of General Education*, 55(2).

Türkmen Dağı, M. (2008). *Integrating critical thinking skills into planning and implementation of teaching Turkish: A comparative case study of three teachers*. (Doctoral dissertation, Ankara, Middle East Technical University).

Vaismoradi, M. Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing and Health Sciences*, 15. 398–405.

Walther, J. M. (2009). *Evaluating the effects of credit-based transitional programs on high school students' critical thinking skills Boise*. (Doctoral dissertation, United State, Boise State University).

Watson, G. & Glaser. E. M. (1941). *Watson-Glaser critical thinking appraisal manual*. New York: Harcourt, Brace and World.

Weinstein, J. R. (1996). Three types of critical thinking about religion: A response to William Reinsmith. *Critical thinking across the disciplines*. 15 (3). 79-88.

Wellington, J. (2006). *Educational research, contemporary issues and practical approaches*. London: Continuum.

Wiele, J. V. (2001). The necessity for a contextual approach in the methodology of religious school textbook analysis, A case study on the basis of the theme Islam, *Paedagogica Historica*, 37(2), 369-390.

Willingham, D. T. (2007). Critical thinking: Why is it so hard to teach? *American Educator*, 8-19.

Wright, A. (2003). The counters of critical religious education: Knowledge, wisdom, truth. *British Journal of Religious Education*, 25(4).

Wright, A. (2004). *Religion, education and post-modernity*. London: Routledge Falmer.

Wright, A. (2007). *Critical religious education, multiculturalism and the pursuit of truth*. Cardiff: University of Wales Press.

Wright, A. (2008). Critical religious education and the national framework for religious education in England and Wales. *Religious Education*, 103(5). 517-521.

Wright, A. (2009). Critical realism as a tool for the interpretation of cultural diversity in liberal religious education. *International Handbook of the Religious, Moral and Spiritual Dimensions in Education*, 333-347.

Yang, S. C. & Chung, T. Y. (2009). Experimental study of teaching critical thinking in civic education in Taiwanese junior high school. *British Journal of Educational Psychology*, 79(1), 29-55.


Yang, Y.T.C., Newby, T., & Bill, R. (2008). Facilitating interactions through structured web-based bulletin boards: A quasi-experimental study on promoting learners' critical thinking skills. *Computers & Education*, 50, 1572-1585.

Yin, R. (2003). *Case study research*. Thousand Oaks.

Yücel, B. (2008). *An evaluation of needs, design, implementation, and outcomes of development and learning course enriched with critical thinking based instruction*. (Doctoral dissertation, Middle East technical university).

Zhang, Y., & Wildemuth, B. M. (2009). *Qualitative analysis of content, applications of social research methods to questions in information and library science*. Westport, CT: Libraries Unlimited.

Appendix A: Approval of Undertaking Research in Schools of Local Authority



EDINBURGH
THE CITY OF EDINBURGH COUNCIL

Mrs Raheleh Mir Eslami
University of Edinburgh
Simon Laurie House (Rm 1.04)
Holyrood Road
EDINBURGH
EH8 8AQ

Date 29 November 2011

Your ref

Our ref SCS/JAI

Direct dial 0131 469 3162

Dear Mrs Mir Eslami

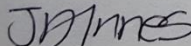
I am writing in response to your application requesting permission to undertake research in schools in The City of Edinburgh.

Your request has been considered, and I am pleased to inform you that you have been given permission in principle to undertake your research. I must stress that it is the policy of this Authority to leave the final decision about participation in research projects of this kind to Head Teachers and their staff, so that approval in principle does not oblige any particular establishment to take part.

I request that you forward a copy of your completed findings to me when they become available. In this case an electronic summary of your thesis would be preferred. Your work may be of interest to a number of staff in the Children and Families Department.

I would like to thank you for contacting the Children and Families Department about your work, and wish you every success in the completion of your project.


Yours sincerely



JULIE INNES
Administrative Officer

Mike Rosendale, Head of Schools and Community Services

Waverley Court, Business Centre 1.3, 4 East Market Street, Edinburgh EH8 8BG Tel 0131 200 2000 Fax 0131 529 6213
julie.innes@edinburgh.gov.uk


INVESTOR IN PEOPLE

Appendix B: Request for Access for Research Purpose

My name is Raheleh Mireslami. I am a PhD student of education at Edinburgh University. I am doing my research on "critical thinking in religious education resources in S3 and S4 in Scottish secondary schools".

As part of my study I would like to interview religious education teachers and I am writing to ask if you would be prepared to be interviewed by me for this study. One of the main topics of the interview would be the RE resources used in S3 and S4 and the major themes taught from them in your school. The other topic would be your ideas on critical thinking in general and in those RE resources. The interview should not take more than one hour.

I am attaching an information sheet and consent form which explain my research and what your participation would involve in detail.

I have received the permission from the City of Edinburgh Council to undertake my research in Edinburgh schools. In addition I have ethical approval from the University of Edinburgh, Moray House School of Education Ethics Committee.

If you are interested in taking part in my study, Could you please let me know? The easiest way to contact me is by email at this address.

If you need more information or have questions you can contact me or either of my supervisors:

Gale MacLeod: gale.macleod@ed.ac.uk

Stephen McKinney: Stephen.McKinney@glasgow.ac.uk

Thanks,
Raheleh

Appendix C: Informed Consent Form

Please read the following information carefully. If you wish I can make a copy for you for future reference.

Description

You are invited to participate in a study that investigates critical thinking in religious education curriculum documents in Scottish secondary schools. The interview questions will be about the following topics: your view on critical thinking in religious education (RE), the RE resources you use to support your teaching in S3, and the main issues in those resources.

Risks and Benefits

There are no anticipated risks to you from participation in this study. The study may have indirect benefit for you as I hope to develop a framework of critical thinking to be used by teachers to evaluate religious education resources.

Time Involvement

The interview will take approximately 45 minutes.

Subject's Rights

If you have read this form and have decided to participate in this project, please understand your participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time. Of course you may also choose not to answer particular questions. Your individual privacy will be maintained in all published and written data resulting from the study.

Confidentiality/Anonymity

The data I collect will not contain any personal information about you. No one will be able to link the data you provide to the identifying information you supplied. The audio files will be given a code which will be held in a secure file. Only I will have access to the code. And the audio files will be deleted on successful completion of the PhD. I will provide an executive summary of my findings to you as well as making the final thesis available in electronic

format. In addition the results of this research will be used in my thesis and I hope to also write academic papers arising from my research.

If you agree with the above-stated conditions and are willing to participate in the research, please sign below. By signing the form, you confirm that you meet the following conditions:

_ You have read the information sheet and above consent form, understood it and you agree to it.

_ You want to participate in the above-mentioned research.

Name:

Date:

Signature:

Appendix D: Interview Schedule

Introduction and warm up questions:

- Introducing myself, explaining the nature of study and the aim of interview
- Assuring the anonymity in my study and ask permission to tape the whole interview
- How long have you been teaching in this school? Is there any other RE teacher in this school?
- How RE is organised in this school? Is it compulsory in all stages? And do the students have to take external exams in RE? What about core RE?
- What are the main textual resources (textbooks, booklets, websites...) you use to support your teaching of RE in S3?
- What are the main issues in each of these resources?

Interview Questions

1- How much choice do you have in choosing the issues?

- What about choosing those resources?
- If you select the resources what are the factors you consider in this selection? What about the issues?

2- How do you understand critical thinking?

- Could you expand it more by some examples of S3?
- What does shape your understanding of critical thinking?

3- What are the documents in RE which form your practice?

- How is critical thinking represented in those documents?
- Is there anything particular about critical thinking in RE documents?

4- How do you teach RE in your class? To what extent do you attempt to develop critical thinking skills in students in RE?

- Could you give me some examples of S3?

5 - How do you assess critical thinking in RE?

- Do you face any challenges in assessing critical thinking in RE?

Cool-off questions and closure:

- Do you want to add something to your answers?
- Anything you would like to ask?
- Did I ask the right questions? Were the questions appropriate?
- Did we miss anything? Anything I should have asked which I didn't?
- How was the flow of the question?
- How was the interview? Did you feel comfortable?
- Saying thank you and goodbye.

Appendix E: Overall approaches to critical thinking in RE teachers' views

Approaches to critical thinking Teachers in schools	Critical thinking cohere with framework	Intertwined with RE	Maturity	Formal philosophical thinking	Generalised view of critical thinking
ND1					
ND2					
ND3					
ND4					
ND5					
RC1					
RC2					
RC3a					
RC3b					

